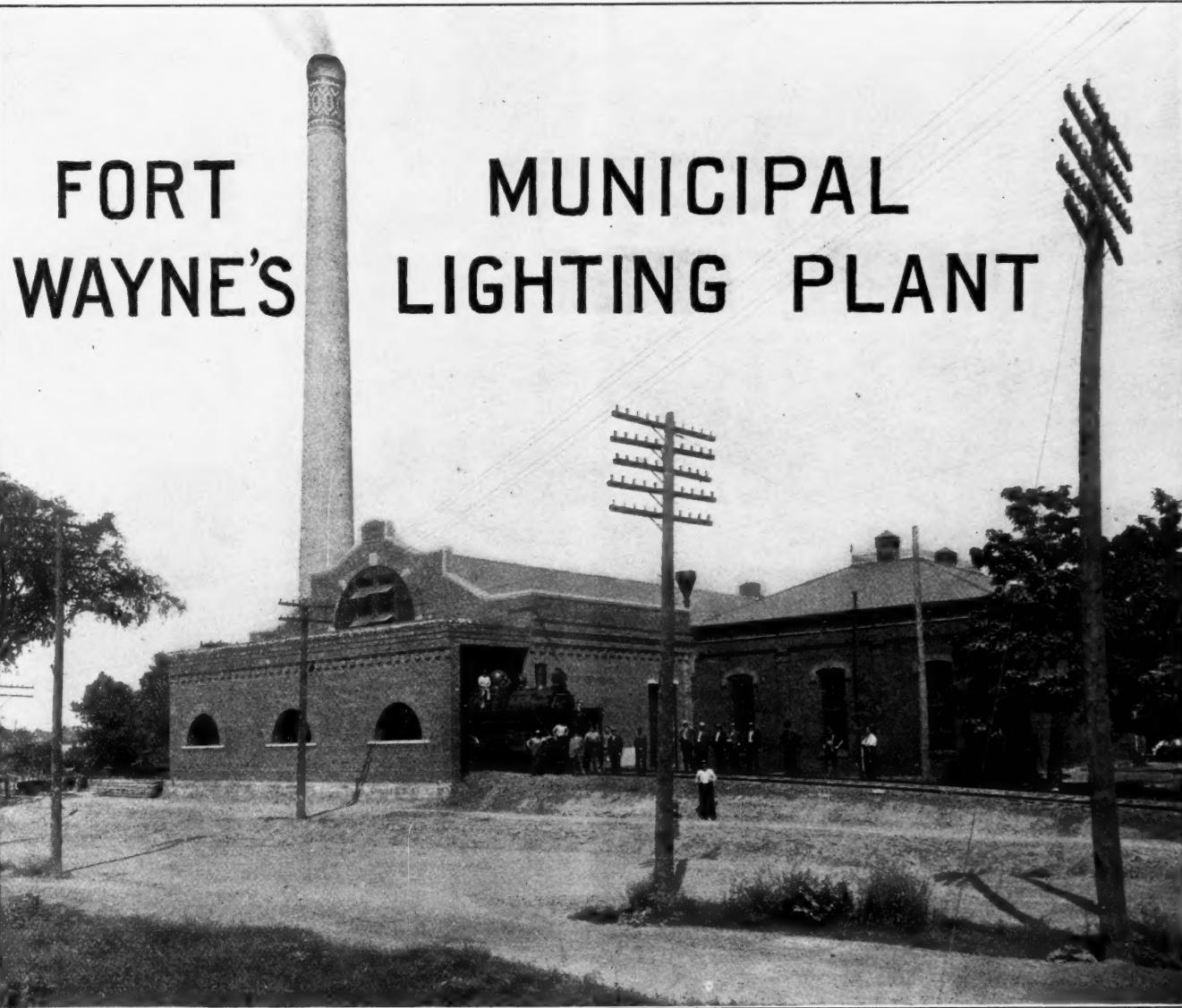


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LIGHTING POWER PLANT AT LEFT AND REAR, PUMPING STATION AT THE RIGHT

By FRANK H. WILLIAMS

THE possibilities for economy in the operation of municipally owned public utilities are strikingly illustrated in the new city lighting plant at Fort Wayne, Ind. All unnecessary expense is most effectually eliminated in this plant. The superintendent oversees all the line work; the mayor and the members of the board of public works look after the buying of coal, the securing of contracts for commercial lighting and the extension of city lines, while the bookkeeping is shouldered by the city controller without the accompaniment of an addition to his salary.

Fort Wayne has only 418 street lights, somewhat less than half as many as other cities of 70,000 population boast, but this condition of affairs is in the nature of a legacy from the old days when the city was lighted under a contract with the Fort Wayne & Wabash Valley Traction Company. New lights are gradually being added and eventually it is probable that Fort Wayne will assume its proper position among other municipalities.

Not only is the municipal plant being conducted as economically as possible, but the city is now paying \$17 less a year for its street lights than it did under the old

régimé. The present rate is \$53 a light, while the old one was \$70. The latter rate was paid by the city to the traction company for thirty-two years under the terms of a franchise granted in 1874. At the rate of \$53 a light the city expects to make money. In addition to this, it has gone into the commercial lighting business and is operating two city water works pumping stations with its power, thus deriving further income.

The first agitation for a city lighting plant was in 1896, but it was not until two years later that the agitation had assumed sufficient force to compel the passage of a special tax levy of two and a half cents on every \$100, to secure funds for the erection of a station. The levy remained at two and a half cents for the one year. In 1899 it was raised to three and a half cents and was raised a cent a year until it reached seven and a half cents in 1902. This rate has been maintained until the present time and was also levied for the current year.

Up to the end of 1908 the sum of \$155,139.78 had been collected from taxes for the plant. In addition to this, the sum of \$13,784 had been received from interest on the tax fund which was invested in street improvement bonds. Of this amount the sum of \$163,764.82 has been expended, leaving a balance of \$5,159.12 which is being used in extension of the lines and in connections for commercial lighting. There is still available for the plant, besides the sums already mentioned, \$10,000 on the 1907 tax installment, which is unpaid, and \$22,936 on the 1908 tax levy, which is as yet uncollected. All these sums will be used in extensions and betterments of the system. In all, then, when everything available and collectable has been expended on the plant, it will represent an investment of \$201,859.78.

The income and estimated cost of maintenance are as follows:

INCOME:

City contract (420 lights at \$53).....	\$22,260.00
Meter charges (32 city buildings).....	3,000.00
Water Works Department.....	12,000.00
Commercial lighting (already secured)	12,000.00
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Total.....	\$49,260.00

MAINTENANCE:

Coal (18 tons a day at an average cost of \$1.80 a ton).....	\$11,826.00
Salary roll (nine employes).....	12,000.00
Depreciation (10 per cent. on \$163,764.82).....	16,376.48
Incidentals (waste, oil, carbons, etc.)	1,000.00
<hr/>	
Total.....	\$41,198.48

PROFIT:

\$8,061.52

An explanation of some of the foregoing figures is undoubtedly necessary to a proper understanding of the situation, and in the explanation it will develop how the city is further profiting by the new plant in a manner which must be reckoned separately from the plant's profits by various other departments of the city.

In regard to the meter charges: The thirty-two buildings comprise twenty-two school buildings, eight fire engine houses, the public library and the city hall. For-

merly all these buildings were electrically lighted by current supplied by the Fort Wayne & Wabash Valley Traction Company at an aggregate sum of nearly \$4,000. Consequently, under the new plan, the light bill of each one of these buildings has been cut down proportionately.

The charge to the water works department is for power. The municipal lighting plant is built directly against the water works pumping station, No. 1, and the steam which runs the engines in the light plant is also used to run the pumping engines in this water works station. The Broadway pumping station is also run by power supplied by the municipal plant in the form of electricity, which was formerly secured from the Fort Wayne & Wabash Valley Traction Company at the rate of \$700 a month or \$8,400 a year. Coal for station No. 1 used to cost the water works department \$10,500 a year. Power, then, for the two pumping stations cost \$18,900 a year, and the water works department is now securing the same amount of power from the city at \$12,000, or a saving to the department of \$6,900 a year.

The entry of the city into the commercial lighting field, a field formerly occupied exclusively by the traction company, has been signally successful as is evidenced by the fact that it has already secured business amounting to \$12,000 a year.

Now in regard to the maintenance of the plant. All of the foregoing figures will naturally increase as the city secures more commercial lighting and makes extensions of the city lighting system. Commercial lighting connections are now being made at the rate of about thirty connections a month, and the cost of these, of lamp renewals, etc., is being taken from the money which has been collected for the plant and not yet expended upon it. Consequently the cost of maintenance is probably considerably lower than it will be when the entire sum available for the municipal plant is expended.

The depreciation is figured on the amount which has so far been actually expended on the plant. The salary roll is particularly small and it is here that another feature of the economical management is shown. There are no high salaried officials connected with the plant. All of the men on its pay roll are workers. Each one of them is perfectly competent in his line. The superintendent of the plant, Frank Dicks, looks after all the connections and the city work, while the assistant superintendent, H. M. Zauner, looks after the running of the plant. As the power plant of pumping station No. 1 is really the power plant of the lighting station, the water works department has been able to economize in its pay roll at this station. Formerly four men were necessary to operate the plant while one man now does all the work. [Nothing is said about allowing for interest, lost taxes, insurance, etc., which would amount to more than \$8,061.—Editor.]

The entry of the city into the commercial lighting field aroused the bitter antagonism of the Fort Wayne & Wabash Valley Traction Company, which formerly had a monopoly of this business; which was further in-

creased by the city's announcement that it would make contracts at eight and six cents, two cents lower than the rate charged by the traction company for the same services. Immediately upon the publication of its intention the city wrote a number of contracts for house, factory and store lighting.

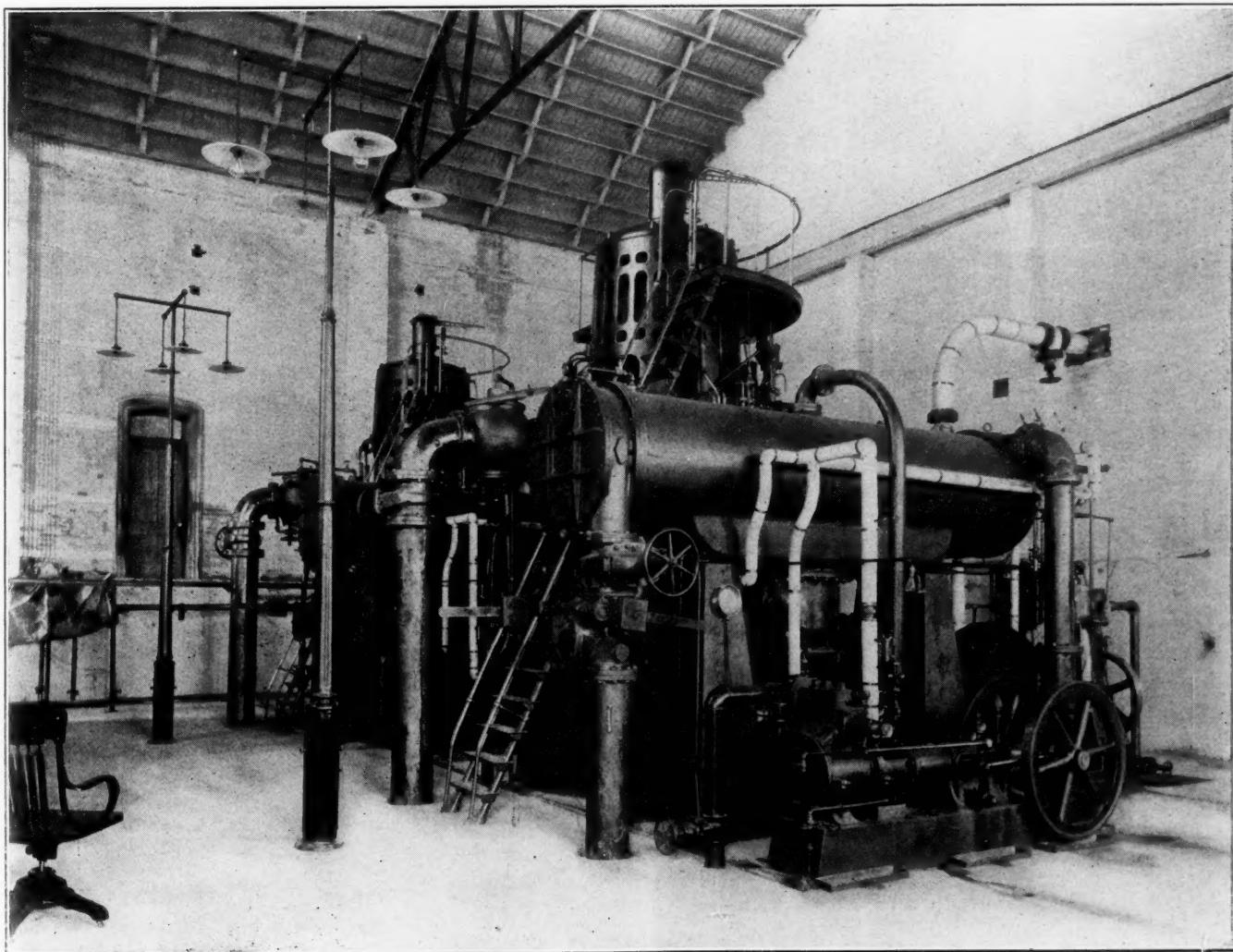
With a view to arousing the taxpayers against the entry of the city into the commercial lighting field, the traction company began the publication in daily papers of "electric talks," which were intended to show that the city streets were poorly lighted; declaring that it had long known of this to be so, but that it could not urge the city to establish more lights while its old contract was in force, as it would then have been charged with seeking its own gain. It argued that, so long as Fort Wayne is not so well lighted as other cities of the same class, it should not spend any money in securing commercial lighting contracts and making the connections for them, but should devote all its available money to the extension of the city lighting system.

Fort Wayne, it was shown, has one lamp to every 148 residents, while the average for other cities of about the same size is one lamp to every seventy-four people. In other words Fort Wayne should have just double the present number of lamps to take its proper place in the procession. Some of the cities mentioned were as follows:

STREET LAMPS IN VARIOUS CITIES		Lamps (Every
	Population	night)
Peoria, Ill.	66,365	988
Utica, N. Y.	65,099	1267
Erie, Pa.	60,000	618
Wilkes-Barre, Pa.	60,121	649
Terre Haute, Ind.	55,000	600

(Ft. Wayne lamps are run under a "Moonlight" schedule.)

Following up the line of reasoning suggested by these figures, the traction company declared that, as the second largest taxpayer in the city, it earnestly protested against the city using any of its available money for anything but the extension of the street lighting system. The company further declared that by entering into commercial lighting before the street lighting system is what it should be, the city is discriminating against all those taxpayers who do not use the city commercial light in either their homes or business. The "talks" made and are making so deep an impression on the Fort Wayne citizens that Mayor Hosey endeavored to find some law whereby their publication could be stopped. The further charge was made in the talks that the city has contracted with certain firms in the city for commercial lighting and power at a rate lower than that advertised and charged householders. The city has not replied to this charge, nor published the rates charged the firms in question.



THE STEAM TURBINES

Although it may be a question whether or not it was desirable for the city to enter into the commercial lighting and power field, thus far the installation and maintenance of the city plant have been a success. The station is thoroughly modern and embodies a number of new principles.

The building is a two-room brick structure, built around pumping station No. 1 on two sides, in the shape of an "L." A spur from the Lake Shore Railroad runs up to a shed next to the building and the coal for the operation of the plant is taken from the cars here. The coal track is elevated fifteen feet in the air and the coal is dropped from the bottom-dump cars into a pit. It is then shoveled by hand into hand cars which run into the furnace room on a track parallel with the boilers. Westinghouse automatic stokers then transfer the coal from the hand cars into the furnace. The coal storage capacity is about 2,000 tons.

The boiler plant consists of three horizontal, water tube boilers built by the Lyons Boiler Works, of De Pere, Wis. The boilers are built for extreme high pressure and the operating pressure is 160 pounds. Before the feed water goes into the main boilers it is heated to 210 degrees by a Cockran heater supplied with the exhaust steam from the auxiliary pumps.

The electrical equipment is driven by two 500-kilowatt

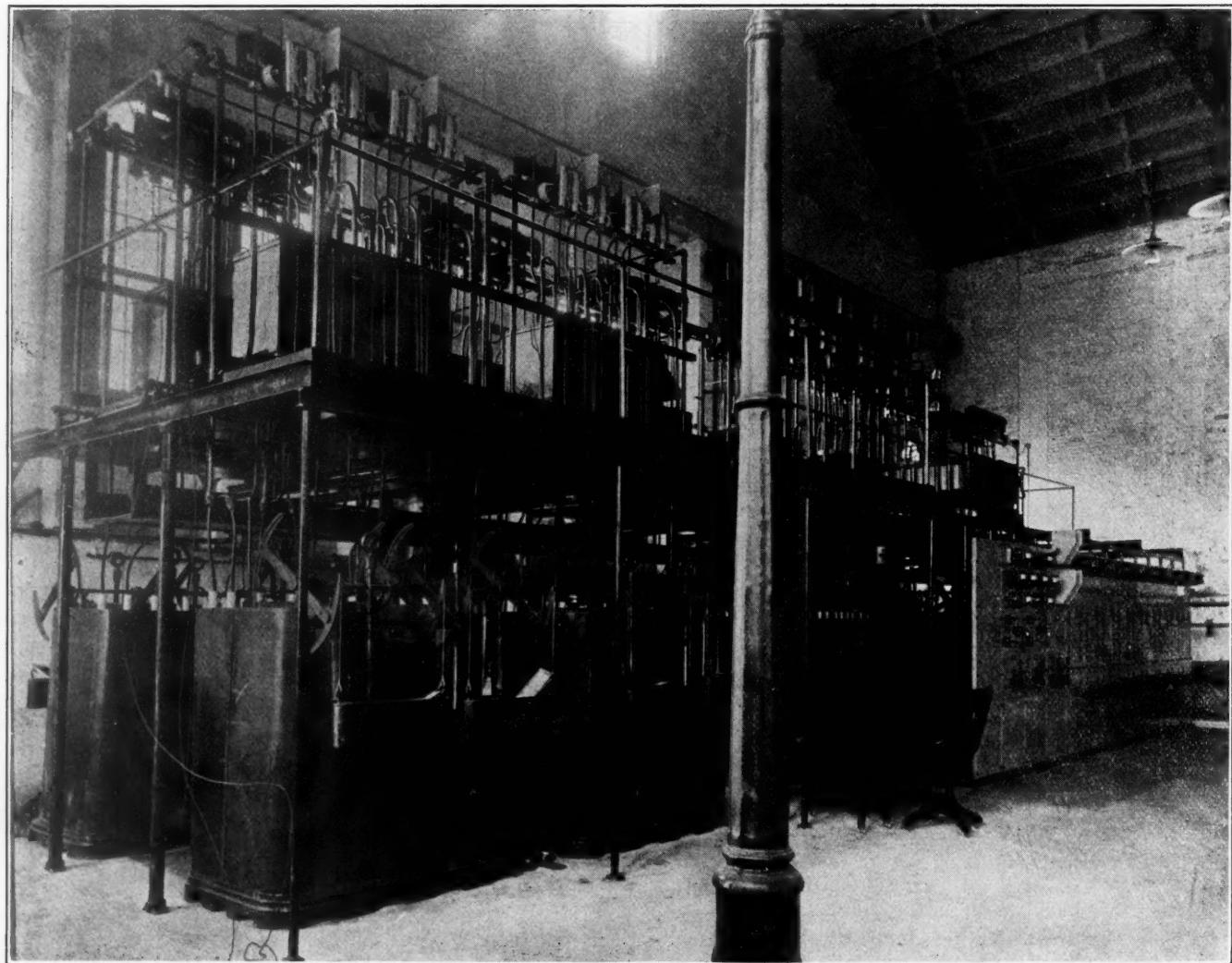
Curtis steam turbines, and includes two 25-kilowatt steam-driven Curtis turbine excitors. Attached to the turbines are surface condensers made by the Allberger Condensing Company, which usually carry 29 to 29½ inches of vacuum, thus greatly increasing the power of the turbines. The water for the condensers is supplied by centrifugal pumps.

The big switchboard, situated just opposite the turbines, serves nine circuits. Each circuit at the present time carries forty-five lamps, but its capacity is seventy-five lamps. A separate switchboard is provided for the commercial lighting and the city building lighting.

The current originally comes from the turbines at 2,200 volts a.c., and from the turbines it is conveyed into General Electric Company's mercury rectifiers, or transformers, where it is changed to 5,000 volts for city lighting.

The water for the boilers is taken from the St. Joe River, and is clarified in a two-acre settling basin near the plant. It was originally intended, when this basin was built a number of years ago, to use it for clarifying the city consumption, but this was discontinued when a number of wells were successfully sunk.

The lamps used for street lighting are luminous arc lamps of the latest General Electric Company manufacture. These lamps require very little attention, it being



RECTIFIERS AND SWITCHBOARDS

necessary to trim them about every 500 hours, as the carbons burn for that length of time; and it is possible for one man to do all the trimming in the city and do other work at the plant besides. The lamps are also especially economical in their consumption of carbons.

It seems apparent that this municipal lighting plant would be an unqualified success if it should be devoted simply and solely to the lighting of the streets and public buildings and the supplying of power to the water works department. With the money on hand and yet unexpended it would be possible to extend the city lighting system to the capacity of the plant, 1,200 arc lamps. Under these conditions it is probable that a small dividend could be paid on the total investment, which would be a little over \$200,000. But the entry of the city into commercial lighting and the making of numerous contracts at rates two cents lower than the traction company, and possibly even lower, introduce uncertain complications. It is possible that the city officials will later find that these rates are ruinously low. However, at the present time this does not appear to be the case, and the future outlook for the plant, despite its entry into commercial lighting, seems rosy and the possibilities of trouble from commercial lighting are now not much more than a cloud on the horizon.

METERS AND FREE WATER

IN his report to the Street and Water Board of Jersey City, N. J., relative to the finances of the Water Department, Engineer J. W. Griffin calls attention to the amount of free water furnished to the city, this including that for schools, flushing sewers and streets, and for fires; in addition to which free water is given to hospitals and charitable institutions. Meters are used quite generally, and the desirability of keeping them in repair is especially referred to as follows:

A meter is a piece of machinery and, like all machinery, requires constant care and attention to maintain its accuracy. This department has instituted a system of inspection of all meters, which entails the employment of an additional force. That such a move is justified is amply proved by the increase in revenues, while the consumption of water in 1908 was actually less than in 1907. If further proof is needed, however, in justification of the employment of inspectors, the records of this department show that the result of proper inspection has reduced the payments to the Jersey City Water Supply Company by \$192.50 per day.

A modern up-to-date and efficient meter laboratory has also been equipped and installed. This enables this branch of the water department to test all meters, as required, and secure all the revenue due the city for water supplied. Notwithstanding the increased expense thus incurred, the deficit of 1906-7 has been converted to a handsome net revenue for 1908-9, and the expenses of the department have been reduced by 5.4 per cent.

The increase in the consumption of water for 1907 over 1906, as previously shown, was 9.2 per cent. Had this ratio of increase been allowed to continue, the water supply of Jersey City would have become inadequate in the year 1910, and the city would have been put to an additional expense involving the expenditure of several millions of dollars to provide an additional water supply. We deemed it more expedient to employ inspectors and install meter-testing devices at nominal cost.

PRIVATE USE OF STREET AREAS

Use of the Space On, Below and Above the Street Level, by Private Owners in Chicago—Charges for Such Use—Department of Compensation

IN the business section of practically every large city it has become almost a necessity to utilize all possible available space in the transaction of business. This has led to the construction of buildings with several stories below the street level and also the use of space outside the building lines and beneath sidewalks and streets. For many years property owners were accustomed to use this space and even project their structures beyond the established building lines without thought or fear of anyone refusing such privilege or asking pay for such use. Of course the property so used belonged to the public at large, but what was every one's business became no one's business, and this condition was allowed to continue.

Within the last few years, however, the cities have wakened to the fact that the public property so used was of considerable value and that fair return should be made for the uses of same, and in consequence of this practically every city now has ordinances governing the use of such property.

Chicago was like most other cities in this matter, and it was not until 1903 that any steps were taken to systematically safeguard the interest of the city in such matters. At that time Alderman B. W. Snow of the Seventh Ward prepared a long list of the public property in use by private parties. This he followed by a resolution, which was passed, creating a Council Committee on Compensation. This committee, of which Alderman Snow has been chairman since its creation, proceeded to work out an orderly and systematic plan by which regular and uniform payment should be made for all special private privileges enjoyed in public space. The ordinance creating the committee is unique in that it made a Council Committee a part of the administrative machinery of city government, authorizing it to conduct all business within its organic scope in co-operation with the Commissioner of Public Works and the Comptroller. It established a scale of prices for all privileges ordinarily sought and passed upon the application, and the administrative departments named collected the money thus contracted for.

In establishing the rates to be charged the committee called in representatives of the Chicago Real Estate Board and the State Street Business Men's Association. At the first meeting these representatives were in accord with the proposals of the committee but at the second meeting bitter opposition developed from these sources. Opposition was also met in the Council, but Mayors Harrison and Dunne stood by the committee in its efforts, until its policy became firmly established.

The clerical work and the records of the committee increased rapidly, and in 1905, again through an ordinance presented by Alderman Snow, the Bureau of Compensation was created to perform the purely administrative functions of the committee.

The duties of this bureau were to investigate the use of public property by private parties, set a fair valuation for such use, keep records and issue permits for such use when authorized by the Compensation Committee of Council, furnish information to Council on such matters, prepare special ordinances governing the same and to keep a jealous watch of ordinances introduced to see that they did not grant such privileges free. Something regarding the work accomplished by this department may be gathered from the fact that during the year 1907 about \$387,000 was collected for such use of public property. This bureau is now under the charge of Mr. H. V. McGurren and we are indebted to him for much of the information given in this article.

Some weeks ago there appeared in the columns of this paper an article on the use of sub-sidewalk space in New York, and there are here given some figures on the use of such space in Chicago. The accompanying drawing shows the occupation of sub-sidewalk spaces in a typical block in the so-called loop or business district.

Under the present arrangement in Chicago the amount paid the city for the use of sub-sidewalk space is based on the value of the property and is not, as in some cities, made a flat rate per sq. ft. regardless of location. Under the ordinances governing this matter, drawn by Alderman Snow and passed in 1904 and 1906, the Bureau of Compensation uses the assessors' valuation to determine the square foot value of the property. Using this as a basis a value is given to the sub-sidewalk

space per square foot equal to one-tenth the value per sq. ft. of the lot and on this valuation an annual rental of 4 per cent is charged for the first fifteen feet in depth and an additional 2 per cent for each additional twelve feet in depth. Where it is desired to use space under the roadway or under alleys, it is necessary to have a special ordinance which grants the privilege and fixes the compensation. The council or mayor has the right at any time to revoke a permit for use of underground public property and the city also has the right to set poles or build catch-basins.

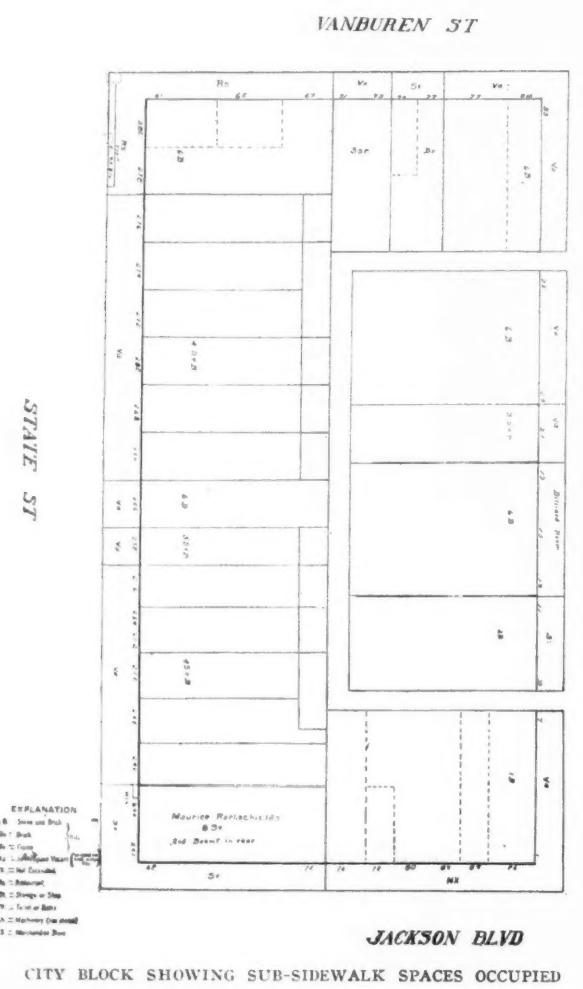
While the ordinance is now in force in regard to all new use of sub-sidewalk space, there are many large users of such space, notably the department stores, of which Marshall Field & Company are representatives, that pay the city practically nothing for the use of such space as they previously had. After the ordinance was passed and became effective, the city attempted to secure payment for the space used by these firms but was prevented from so doing by an injunction in which it was stated that these properties were entitled to an easement because of the fact that they had enjoyed the free use of such space for over twenty years. Wm. D. Barge, Assistant Corporation Counsel, has been trying for a long time to get this injunction removed. There were many delays in the matter due to the crowded condition of the court calendar and the setting forward of the date of hearing, but in June, 1908, the matter was brought up and is now in the hands of Judge Mack waiting for his decision. Mr. Barge states that, in view of past decisions, he has no fear that the matter will be decided in the city's favor. At the time the injunction was secured the interested companies gave bonds to pay the rental withheld during the life of the injunction, in case the city won.

To make the action valid in the future, regardless of the result of the injunction suit, the framers of the proposed new city charter introduced a clause empowering it to so collect, but when the charter got to the Legislature this clause, for some unknown reason, was cut out. However, the people voted not to accept the new charter and the matter stands as it did before.

In *Collier's Weekly* of January 11, 1908, Mr. Joseph Medill Patterson, former Commissioner of Public Works, tells how he and the city were outwitted by Marshall Field & Co. when the addition to this, the largest department store in the world, was made. Mr. Patterson may have introduced matter into that article to show the socialistic point of view, but if all is true that he states, business interests in Chicago have little respect for public interests.

In the loop or business district no new buildings are allowed to be constructed with areaways or outside entrances to the basement. In the outside district permanent fees are charged for openings in the sidewalk for coal chutes or lifts—\$2 for coal hole; \$5 for opening under ten sq. ft. and \$10 for ten sq. ft. or more. Here as elsewhere a bond of \$10,000 is required to protect the city against damage suits.

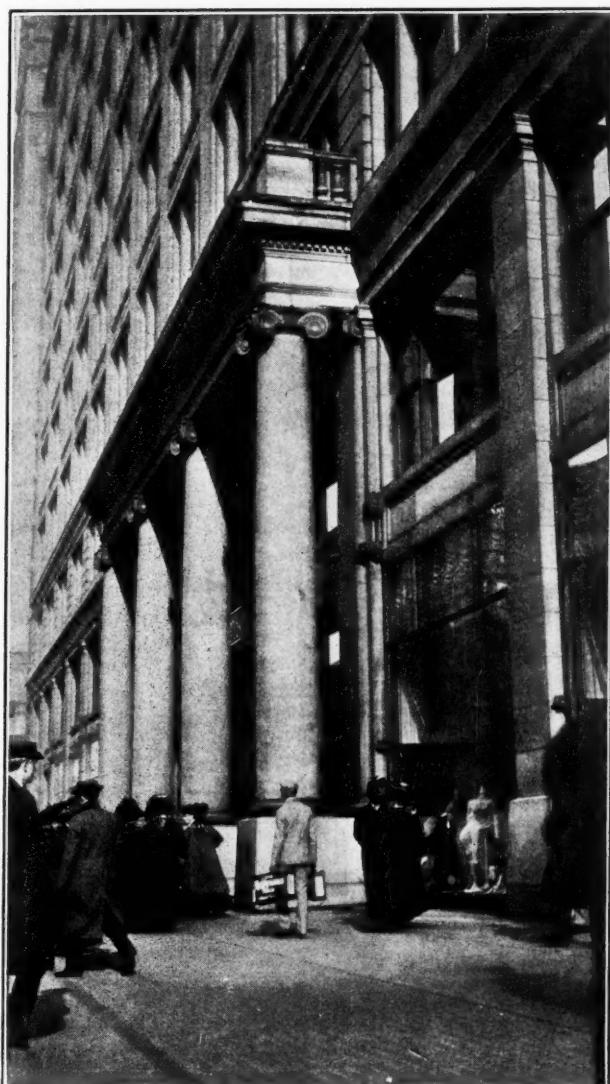
When pipe galleries or conduits cross streets or alleys from one building to another an annual charge is



made of \$25 for street crossing and \$10 for alley crossing.

In addition to underground use of public property a charge is also made for the use of space in the air above the same, as in the cases of connecting bridges, projecting signs, etc. In the case of connecting bridges the Department of Compensation collects for each square foot of floor space covered $7\frac{1}{2}$ per cent on one-tenth the assessed valuation per sq. ft. of the property. Such bridges must not be less than eighteen feet above the street grades.

In the past it has been customary to allow ornamental features of buildings to project beyond the building lines, as in the case of the Marshall Field entrance and



ENTRANCE TO MARSHALL FIELD & CO.'S STORE

the corner of the Carson-Pirie-Scott store; but now these are prohibited and the structure must be entirely within the building line. On old buildings, entrance steps and areaway entrances are allowed to exist unless they are a menace to pedestrians, but such features are not allowed on any new buildings.

No projecting signs of any nature are allowed on State street between Lake and Van Buren streets. In other sections ordinary signs may be put up when a permit is secured and they are approved by the department. Permits must also be secured for electric signs, and an annual charge of 15 cents per sq. ft. of lighted

surface is charged for these. Special permits must also be secured for bill boards, and in the downtown district an annual charge of \$1 per sq. ft. of surface is charged, while in outlying sections the charge is 25 cents per sq. ft.

In the case of a marquis or permanent awning a special permit is required and it is necessary to build such structure of fireproof material and with at least twelve feet of head room. The charge is \$25 per year.

In the loop district no stands are allowed on the sidewalk except in connection with a legitimate business housed in the adjoining building. Outside of the loop district stands are allowed at a monthly rental of 25 cents per sq. ft.

Another source of considerable revenue to the city is the rental of the stub ends of streets, along the river and in other places, that are not generally used. These are leased on short term leases, two or three years, subject to revocation. An annual rental per sq. ft. of surface is charged of 5 per cent of the actual sq. ft. value of the abutting property. Such leases are revocable at any time.

Some business places require a switch to be laid from a railroad to their factory or storehouse, which sometimes crosses or goes along a street. In such cases a special ordinance granting permission is required and an annual charge of \$1 per linear foot for the first fifty feet and 50 cents per linear foot for each additional foot is made. The minimum charge is \$25 per year.

To place scales in streets requires a special ordinance and payment of fee of \$25.

If a contractor uses a street for storing material while doing work he must secure a permit and pay \$2 per month for every 25 ft. front. The material must not project more than twelve feet from the curb and he must protect the city by a \$10,000 bond. If he wishes to cut an opening in a street he must give the same bond and deposit money enough to guarantee the return of the pavement to its proper condition.

The source of a great deal of revenue to the city and which brought in over \$200,000 in the year 1907 is the vacation of streets and alleys. There have, in the development of the city, been many streets and alleys opened which could better have been left closed. Where such exist and a person wishes to buy them, a special ordinance is introduced and passed in council authorizing the vacation, the Committee on Compensation fixing the payment to be made. The property is sold at the same rate per sq. ft. at which the adjoining property is held. As a case in point, the Northwestern Railroad desired certain streets and alleys in connection with the building of their new passenger terminal. They were allowed to take 26,000 sq. ft., for which they paid \$6 per sq. ft.

While there are doubtless many other things which, if delegated to the Committee on Compensation, would help out the city finances, this department has already so systematized this work that it secures a considerable revenue to the city, and a similar department would undoubtedly be of great value to other cities where this source of revenue is not availed of.

MEASURING GROUND WATER DEPTH

Method and Apparatus Employed in Leipzig Investigations—
Accuracy to a Fraction of a Millimeter Obtainable
by Home-made Apparatus

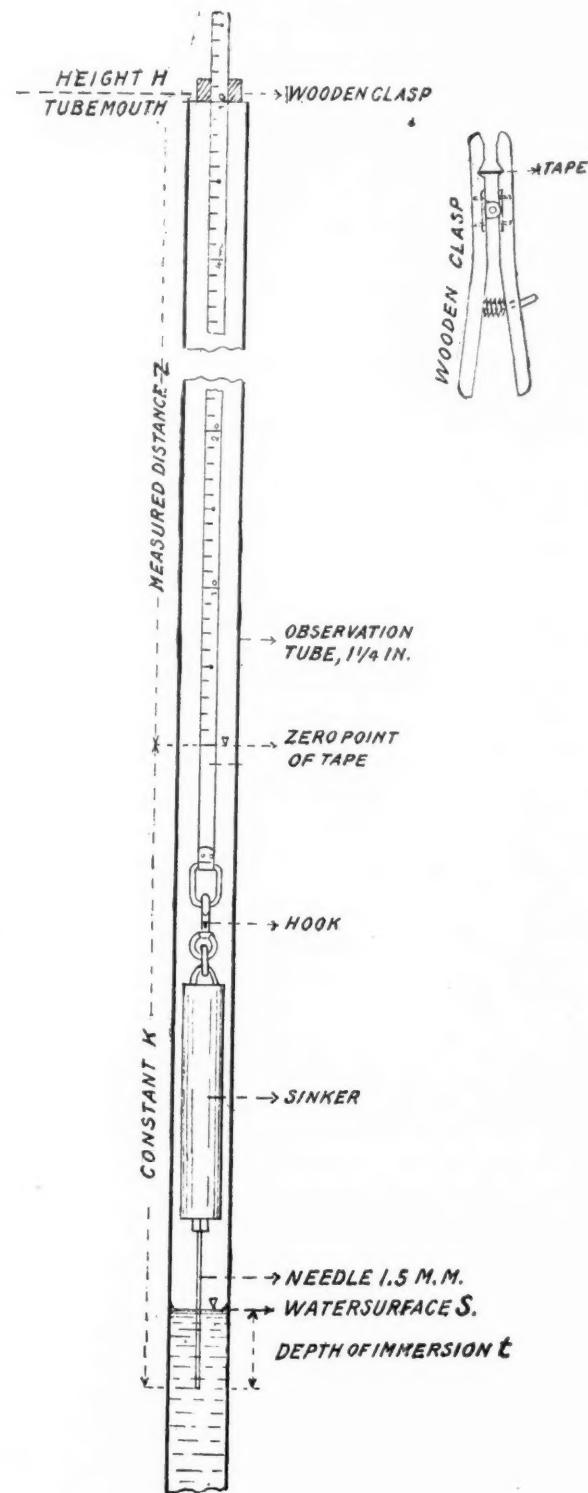
THE study of the flow of ground water and of the effect produced by pumping upon the same is a matter which has not received sufficient attention in this country, but its importance is likely to be recognized as the demand for water in the many parts of the country causes the underground supplies to be more thoroughly developed. An accurate study of the effect of pumping especially involves the use of accurate methods of measuring the elevation of the surface of the underground water. An apparatus for accomplishing this was described in a recent issue of "Gesundheits-Ingenieur," by Dr. G. Thiem, of Leipzig, of which description we present a brief abstract, omitting portions of the article which deal with the theory of the investigations to be carried on by the use of the apparatus. The apparatus and calculations described were both made in connection with a hydrographic survey for the third water supply of that city.

A pump well having first been sunk, two or more observation wells are sunk in a straight line with it and in a direction as nearly as possible parallel with that of the ground water flow. The apparatus herein described is then used for determining the depth of the ground water below the top of the well and observation tubes. Pumping at a uniform rate is then begun and continued for some time. The ground water is lowered and its top surface takes a form approximately parabolic, tangent to the original surface; the point of tangency, and consequently the extent of area affected, depending upon the amount of water pumped, the permeability of the soil and the amount of ground water flow. By noting the amount by which the water surface is lowered in the several wells the form of its curve may be ascertained. If the formula of the curve is to be accurately determined it is, of course, necessary that the measurements be accurate.

Dr. Thiem's apparatus for making these measurements he describes as follows: "At the lower end of a sinker, which is fastened to a steel measuring tape by means of a hook, is a steel needle $1\frac{1}{2}$ mm. thick (.06 of an inch). In taking the measurements the steel tape is lowered into the well, being held in any desired position by a wooden clip which rests upon the top of the well, the tape being lowered to such a point that the needle, carried by the sinker, enters into the water a few centimeters. The dimensions of the sinker are so chosen that there is very little space between it and the walls of the well, so that the needle enters the water in the center of the tube. The weight of the sinker is made sufficient to keep the tape always stretched tight. The distance from the zero of the tape to the lower point of the needle is a known quantity, K , and only the depth of immersion of the needle and the tape reading need be measured. If we called the distance from the zero of the tape to the underside of the clip Z , and the depth of

immersion of the needle t , and H the fixed elevation of the mouth of the well, then the height of the water surface in the well is $H - (Z \times K - t) = S$.

"By the immersion of the needle in the water there takes place a slight rise in the height of the water surface, for which reason the diameter of the needle is made as small as possible. When using a $1\frac{1}{4}$ -in. gas pipe for the observation tube and a needle of the size indicated above, an immersion of the needle of 10 cm. would raise the water level 0.22 mm., a quantity so small that it need not be considered, especially since as great a depth of immersion as 10 cm. is entirely unnecessary.



MEASURING APPARATUS IN OBSERVATION TUBE

To determine accurately the depth to which the needle is immersed in the water, before beginning the measurement the needle is dipped in a mixture of very finely pulverized chalk and ether. On removing the needle from this mixture the ether evaporates and a fine film of chalk remains. When lowered into the observation tube the water removes the chalk to its own depth and there remains on the needle a plainly visible ring, indicating the height of the surrounding water, so that the immersion of the needle can be measured to a fraction of a mm. with absolute accuracy. A demonstration of this accuracy and the right proportion of the chalk mixture can be obtained by experimenting in a glass of water."

This method is reported to be perfectly satisfactory in connection with free flowing ground water. Where the water is under pressure, however, as in true artesian supplies, anything which affects the pressure, such as pumping, will cause waves of pressure much as in the case of a water supply distribution system, the waves due to pump pulsation being appreciable for considerable distances. The only method which Dr. Thiem found to be practicable in such cases was to take simultaneous readings of all wells, he having found that the waves of pressure caused a synchronous rising and lowering in all wells uniform in amount. Efforts to connect the various wells to glass tubes ranged side by side and connected at the top, and from which the air had been exhausted so as to cause the water to rise into all the tubes, while theoretically an excellent one was found to be impracticable because of the impossibility of preventing slight leakages into the pipe of outside air, which not only caused a continuous lowering of water in the observation tubes, but this lowering was non-uniform because the amount of leakage into the different tubes was itself non-uniform.

CITY ADVERTISING

THE public has become familiar with the statement so continuously repeated that no merchant can succeed as he should without ample and judicious advertising. Of late years the same necessity for advertising is being recognized by cities as well, and Boards of Trade, citizens' associations and even city governments are adopting various methods for advertising the advantages of their respective cities as homes for residents or for manufacturing industries. To mention merely a few recent instances: The Chamber of Commerce of Spokane, Wash., spent \$60,000 last year in promotion work; the Springfield, Mass., Board of Trade awarded a prize of \$500 for a scheme for advertising the city which calls for an expenditure of \$25,000 a year, this including the employment of an advertising agent at a salary of \$2,500 per year, among the mediums suggested being magazines, newspapers, personal letters, buttons, stickers, billboards and a monthly bulletin. The Commercial Club of Knoxville, Tenn., expects to spend \$10,000 this year in advertising the city, using space in both northern and southern newspapers and in magazines. Greensboro, N. C., is distributing broadcast 20,000 advertising leaflets; Shreveport, La., through its Progressive League,

has begun a systematic "boosting campaign," and the Commercial Club of Cœur d'Alene, Mont., is advertising with the idea of bringing to it sightseers *en route* to or from the Alaska-Yukon Exposition. A score of other instances might be mentioned; in fact, it has become a more or less universal opinion in most sections of the country that any city which does not make some active effort at direct advertisement is dead and sure to fall behind the time.

STREET ACCEPTANCE ORDINANCE

THE city of Pittsfield, Mass., on January 8, adopted an ordinance regulating the laying out and acceptance of city streets. This provided that a plan and profile of a street offered for acceptance must be filed with the City Engineer; that the street must be at least forty feet wide; must be entirely cleared of stumps, roots and brush and of loamy material, which must be removed from the limits of the streets, including the sidewalks; the excavation of embankments must be brought accurately to a sub-grade not less than 6 inches below the finished grade of the roadway or 4 inches below that of the sidewalk. Side slopes of cuts and fills must have a ratio of at least two horizontal to one vertical. All roots and boulders in the excavation must be removed from the street or used in the embankments. If the soil is wet or spongy, under-drains or stone filling must be laid through the center of the roadway and connected with outlets. The roadway is then to be brought to finished grade with gravel thoroughly rolled, except that loam is to be used along the edges of the sidewalks. Side slopes must be covered with good loam at least 6 inches deep, carefully rolled. Every street having a grade of 4 per cent. or more must have its gutters paved at least 3 feet wide with stone or concrete. Every street having a continuous grade for more than 400 feet must have a catch-basin built on each side of the street and connected with a permanent outlet. Stone bounds or monuments must be set at all angles or curves by the owners at their expense and under the direction of the City Engineer. In streets of all widths up to 66 feet the width of each sidewalk, measured to the center of the gutter, is to be one-fourth the total width of the street; 6 feet of this next to the side line of the street (5 feet in 40-foot streets) being paved with gravel and having a pitch of 3-8 inch to one foot. The roadway in each case is crowned 3-4 inch per foot. The gutters are 30 inches wide on 40 and 50-foot streets, and 3 feet wide on 60 and 66-foot streets.

ANTI-SLIPPING HORSESHOES

ONE of the objections found with many, if not most, of the modern city pavements is their slipperiness, which both causes injury to the horses and reduces their drawing power, although the rapid introduction of automobiles is tending to make these objections of lessening importance. Consul General Robert P. Skinner writes from Hamburg, Germany, that there has been introduced there a new horseshoe especially designed for

asphalt and wood block pavements, the novel and valuable feature of which is a countersunk groove extending completely around the shoe, in which is inserted a piece of hemp rope which can be readily replaced. The rope alone comes in contact with the pavement and

secures to the horse a sure footing. This shoe, he says, is far from being in general use in that city, but is making considerable headway. The screw calk, which is used extensively in this country, is still the more usual device employed in Germany also.

MUNICIPAL BOND SALES DURING JANUARY

NAME OF CITY	Estimated Population	ACTUAL VALUE OF ASSESSABLE PROPERTY (estimated)		Ratio of Ass'd to Act'l Value	Bonded Debt	Sinking Fund	NET BONDED DEBT	Tax Rate Per \$1,000 Ass'd Value	BOND SALES, JANUARY, 1909						
		Total	Per Capita						Total	Per Capita	Term of Years	Amount	Interest	Price	Basis
West End, Ala.									20	\$35,000	5% s.a.		Par		
Phoenix, Ariz.									25	60,000	5% s.a.	107.58	4.492		
Hollywood, Cal.									9½ av.	61,000	4½% s.a.	102.16	4.221		
Redwood City, Cal.	\$4,000	\$3,125,000	\$781	40%	\$110,000		\$110,000	\$27.00	\$17.45	1-20 ser.	20,000	5½% s.a.	109.307	4.384	
Ventura, Cal.									23,000			111.143			
Burlington, Colo.	500	500,000	100	35%	12,000		12,000	24.00	10.00	10-15 op.	11,000	6% s.a.	97.00	6.304	
Danbury, Conn.									20	75,000	4½% s.a.	101.789	3.87		
New London, Conn.	20,000	22,364,083	1,118	67%	1,196,500	\$26,500	1,170,000	58.50	16.00	20	100,000	4½% s.a.	102.614	3.811	
Waterbury, Conn.	73,000	80,000,000	1,096	69%	2,102,000	181,000	1,921,000	25.00	14.70	1-10 ser.	100,000	4½% s.a.	100.495	3.89	
Daytona, Fla.	5,229	3,750,000	717	40%	16,500	742,45	15,757.55	3.00	15.00	30	50,000	5% s.a.	101.53	4.901	
East Point, Ga.	4,000	2,250,750	562	71%	92,000	3,500	88,500	22.00	1.25	30	85,000	5½% s.a.	104.029	4.747	
Thomson, Ga.	2,000	1,500,000	750	60%	22,000	1,000	21,000	10.50	8.50	30	25,000	5% s.a.	103.63	4.771	
Farmington, Del.									10½ av.	4,000	5½% s.a.	104.15	4.50		
Richmond, Ind.	21,000	20,000,000	952	70%	231,000	13,748	217,252	10.00	1.10	4 av.	25,000	3.65% s.a.	100.20	3.594	
Ellis, Kan.									45,000	5% s.a.	Par				
Salina, Kan.	47,400	50,000,000	1,055	25%	2,162,841		2,162,841	45.62	38.70	20	40,000	4½% s.a.	105.515	4.093	
Ashland, Ky.	10,000	8,000,000	800	60%	33,000	30,000	3,000	.30	12.50	50	500,000	34% s.a.	104.177	3.328	
Chelsea, Mass.									20,000	4½% s.a.	Par				
North Andover, Mass.									329 ser.	1,080,000	34% s.a.	102.19	3.322		
Springfield, Mass.									50,000	4½% s.a.	106.131	3.276			
Taunton, Mass.	30,967	22,269,221	719	75%	2,215,950	839,835	1,376,115	44.00	19.40	10	26,000	4½% s.a.	103.33	3.60	
Worcester, Mass.									10	6,500	5% a.	103.50	4.456		
Chelsea, Mich.	38,659	26,411,500	683	100%	899,500	633,483	266,017	6.88	20.80	8 av.	7,000	5% a.	103.67	4.445	
Faribault, Minn.									11½ av.	6,500	5% a.	105.20	4.424		
Mahnomen, Minn.									20	10,000		104.35			
New Fague, Minn.									15 av.	80,000	4½% s.a.	Par			
Red Lake Falls, Minn.									10	5,000	6% s.a.	103.82	5.50		
Pascagoula, Miss.									6 av.	8,000	5% s.a.	102.262	4.565		
Red Lodge, Mont.									10	5,000	4½% s.a.	Par			
Albion, Neb.	2,200	1,750,195	795	20%	14,000		14,000	6.00		1-20 ser.	25,000	6% s.a.	100.20	3.594	
Gothenburg, Neb.									10-20 op.	30,000	5½% s.a.	103.063	4.614		
Pender, Neb.									5-20 op.	6,000	5% s.a.	101.20	4.845		
Superior, Neb.	2,800								5-20 op.	7,000	6% s.a.	102.95	5.285		
Asbury Park, N. J.	10,000	17,000,000	1,700	61%	989,000	29,762.07	959,237.93	95.00	22.40	3 av.	42,337	5% s.a.	Par		
Glen Rock, N. J.									21 5-6 av.	35,000	5% s.a.	Par			
Summit, N. J.									60,000		108.00				
Tenafly, N. J.									12,000	5% s.a.	102.383	4.572			
Trenton, N. J.									29,400	4½% s.a.	101.268	3.846			
Westfield, N. J.	6,250								10	16,000	5% s.a.	104.17	4.258		
Wood Ridge, N. J.									20	10,000	5% s.a.	104.293	4.667		
Bergen, N. Y.									4-27 ser.	6,000	4½% s.a.	100.25	4.227		
Dannemora, N. Y.	650	170,000	261	40%	12,400	1,000	11,400	17.00	11.00	13 5-6 av.	7,500	5% s.a.	Par		
Eastchester, N. Y.									4-6 ser.	81,942	3.95% s.a.	Par			
Greenfield, N. Y.									3,000	5% s.a.	103.37	4.238			
Hudson, N. Y.	11,000	7,580,100	689	80%	444,839	9,502.25	435,337	39.00	20.62	10	5,000	4½% s.a.	100.81	3.901	
Newburgh, N. Y.	26,000	25,000,000	943		585,899.97	14,269.70	571,630.21	21.57	22.40	20	115,000	3.85% s.a.	100.178	3.837	
Saranac, N. Y.	4,500	3,500,000	777	50%	243,500		243,500	54.00	13.80	4½ av.	3,000	5% s.a.	101.00	4.761	
Utica, N. Y.	72,500	41,252,122	569	65%	1,747,650		1,747,650	24.00	17.38	3½ av.	2,670	5% s.a.	100.643	4.788	
Wilton, N. Y.									12½ av.	4,584	5% s.a.	108.00	4.17		
Marion, N. C.	1,700	624,050	367	50%	58,000		58,000	34.00	12.50	20	20,000	5% s.a.	Par		
Ashland, O.									5½ av.	6,400	5% s.a.	106.14	3.75		
Barberton, O.	10,000	5,600,000	560	50%	158,544	422	158,122	15.81	3.14	3 av.	1,500	5% s.a.	103.466	3.77	
Canton, O.	45,000	60,000,000	1,333	25%	306,000		306,000	68.00	32.00	5 av.	54,700	4½ & 5% s.a.	102.09	4.072	
Crestline, O.									10½ av.	9,092	5% s.a.	103.607	4.257		
Crooksville, O.	3,000	1,000,000	333	66%	17,592.37	2,400	15,192	5.00	4.56	1-10 ser.	2,000	4½% s.a.	100.207	4.313	
Deshler, O.	1,800	1,000,000	555	35%	2,000	500	1,500	.80	.08	1-5 ser.	2,211	4½% s.a.	100.13	4.472	
Gibsonburg, O.	2,000	452,000	226	50%	10,000	2,000	8,000	4.00	3.50	1-10 ser.	500	5% s.a.	100.50	4.00	
Kenmore, O.									4 av.	6,000	4½% s.a. & 8	101.75	4.021		
Lima, O.	35,000	10,601,443	302	60%	853,000	260,198	574,812	16.42	38.00	4 av.	1,203	4½% s.a.	100.207	4.457	
Middletown, O.	15,000	15,000,000	1,000	33½%	369,217	14,857	354,360	23.00	2.98	5 av.	41,000	4½% s.a.	102.25	4.00	
Mt. Vernon, O.									5 av.	8,000	4½% s.a.	102.58	3.926		
Napoleon, O.	5,000	3,000,000	600	33½%	186,890		186,890	37.38	47.20	1-5 ser.	736	5% s.a.	100.75	4.728	
St. Henry, O.	800	166,000	207		13,000		13,000	16.00	7.00	8½ av.	13,000	4½% s.a.	102.13	4.204	
Warsaw, O.	750	147,000	196	60%	500	100	400	.50	8.00	1½ av.	500	4½% s.a.	100.81	3.44	
Youngstown, O.	60,483	56,882,000	940	50%	1,269,112	209,167	1,059,945	17.52	29.42	3½ av.	5,800	5% s.a.	103.11	4.093	
Coweta, Okla.									14½ av.	850	5% s.a.	101.00	4.389		
Enid, Okla.									25	28,000	6% s.a.	97.62	6.123		
Oklmulgee, Okla.									25	250,000	5% s.a.	101.717	4.757		
Pawnee, Okla.	2,000	1,020,000	510	33½%	1,500		1,500	20.00	25	100,000	5% s.a.	Par			
Wagoner, Okla.	4,000	3,000,000	750	50%	35,000	10,000	25,000	6.20	10.00	25	40,000	5% s.a.	101.50	4.895	
Latrobe, Pa.									16½ av.	57,000	4½% s.a.	105.68	4.03		
McKeesport, Pa.									17½ av.	30,000	4½% s.a.	101.974	3.844		
New Haven, Pa.	2,546	600,000	235	60%	14,000	2,800	11,200	5.00	10.00	1-12 ser.	12,000	5% s.a.	Par		
Port Vue, Pa.									17½ av.	18,000	4½% s.a.	Par			
Wilkes-Barre, Pa.									1-5 op.	27,500	5% s.a.	Par	</		

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FEBRUARY 24, 1909.

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Early Planning of Street Work

We would call to the attention of City Councilmen and other officials the excellent example set by the Municipal Council of Haverhill, Mass., as stated in our "News of the Municipalities" for February 17, which plans the laying out, before May 1, of the work to be done during the year, requesting that all citizens who intend to petition the Department of Streets for permanent improvements have all petitions in before that date. It is believed that with such a rule enforced the work for the entire season can be intelligently planned in advance; and duplicating and undoing of work, such as digging up newly paved streets for pipes or connections, may be avoided. The plan is certainly

a good one and in line with a businesslike conduct of the department, and we can see no reason why it should not prove in every way admirable and worthy of adoption by other cities.

The Civic League of Salem, Mass.

SALEM'S Civic League was originated April 3, 1905, "to work for better conditions in the civic life of Salem," and has at present a membership of 200. In a pamphlet recently issued it gives a brief statement of its aims, past activities and future plans. The former include the separation of politics from municipal elections, the strict enforcement of laws, clean, well lighted and shaded streets, parks and playgrounds, and improved housing. It is striving for the adoption of a comprehensive plan for the city, including a civic center; for the redeeming of the water front; for the establishment of building lines; the adoption of a model city charter and of a uniform accounting system for this and all municipalities; the elimination of grade crossings; waste receptacles throughout the city streets; proper disposal of waste and universal extension of the sewerage system; suppression of exposed fruit and vegetable stands; regulation of billboards; elimination of overhead wires and poles; public comfort stations and public baths, an enlightened street tree policy, and an art commission to pass on all public buildings or monuments. Other plans and aims are stated, but those given above are selected chiefly because they are equally applicable to most of the cities of our country and may serve as suggestions to other civic bodies as to what the most enlightened modern municipalities are striving for.

Mosquito Extermination in Georgia

THE Board of Health of Brunswick, Ga., has determined that their campaign against mosquitoes should be continued throughout the year and the inspection, location of and killing of larvae are to be kept up through all seasons. From results of their work so far they have learned that the time to get rid of the larvae in Georgia is in the winter, when the bright sunny days of that season in the South bring out great numbers of mosquitoes from the cool water, even though it may have been frozen recently. The work of the Department in killing the larvae has been especially successful in brackish water. A special inspector is detailed for this work, and each year shows greater freedom from the mosquitoes than the year before. Mr. Alfred O. Wood is the president of the board and is entitled to much of the credit for the success of its efforts.

No License and Municipal Ownership

ITEMS from Athens, O., and Mansfield, La., among the News of the Municipalities this week, state that the municipal lighting plants of those towns were formerly maintained largely by liquor licenses, and must be closed down or sold now that the towns have "gone dry." We hope the "wets" will not use this as an argument in favor of license. It would appear that municipal business so weak financially should have been abandoned long ago, even if this source of income had continued available.

NEWS OF THE MUNICIPALITIES

Divers Subjects of General Interest and Their Treatment by City Councils and Officials—Streets, Water Works, Lighting and Sanitary Matters—Police and Fire Items—Government and Finance

ROADS AND PAVEMENTS

To Keep Akron Sidewalks Clean

Akron, O.—The Board of Public Service is to get help from the Chamber of Commerce in the matter of keeping sidewalks in the city in good condition, as a committee has been named by the Chamber of Commerce for this purpose. The committee will also make an effort to have all shade trees taken from the streets and transplanted on the front lawns of the residences they are now shading from their position between the curb and sidewalk.

Million Dollars Spent for Streets

Columbus, O.—According to the report of Chief Engineer Henry Maetzel, of the Board of Public Service, during 1908 there were 111 streets and alleys paved, at a cost of \$1,011,993. The work was done by 13 contractors, the largest amount drawn by one contractor being \$144,000, and the lowest about \$15,000. The total length of streets paved was 26,775 miles, the largest amount ever laid. The work laid out for the present year is as great as that done in 1908.

Liberal Offer to Widen Street

Columbus, O.—The widening of High street, from Vine to Goodale street, is being advocated by business men. A wholesale grocer, Dennis Kelly, is so anxious for the improvement that he is willing not only to give 10 feet off the front of his property, but will give \$1,000 as a starter for a subscription fund to pay for the expense of moving the other buildings, most of which are small and can be readily set back. On account of a neighboring market and the traffic to and from the railroad freight sheds the street is badly congested and business has suffered. Mr. Kelly believes that the improvement will increase the value of property 100 per cent in two years.

City Contract System Barred

Milwaukee, Wis.—The Social Democrats demand that Milwaukee shall make street improvements, even the laying of permanent pavements, without contracts, but under the direction of the Board of Public Works, according to a measure presented to the Legislature. This bill was one of seven Milwaukee bills sent to Madison in the pocket of Benjamin F. Poss, Special Assistant City Attorney.

Asphalt Plants for City of New York

New York, N. Y.—Provision for the erection and equipment of municipal asphalt plants in each of the boroughs of the City of New York is made in a bill introduced in the Legislature by Assemblyman Hoey, of New York. "The City of New York," said Mr. Hoey, "is at the present time absolutely at the mercy of the Asphalt Trust, and as a result is compelled to pay exorbitant prices for asphalt pavement. There is only one way to meet this situation, and that is for the city to erect and equip its own asphalt plants. It has been done in other cities with great success, and there is no reason why New York should be longer subject to the exactions of unscrupulous combinations."

Will Use Illustrations of Pasadena Roads in Lectures

Pasadena, Cal.—About a dozen photographs of roads in or near Pasadena have been sent to L. W. Page, Director of the Federal Good Roads Office at Washington, for use with stereopticons in lectures. The views include a picture of the asphalted macadam driveway at the Busch residence, and other similar pavements, asphalt pavements and oiled streets.

Increase in Number of Property Owners Blocks Petition

Syracuse, O.—For the third time property owners on South State street who are opposed to the laying of an expensive pavement have succeeded in interrupting the proceedings. This time bids had been received under the standard paving specifications, which require proposals upon numerous classes of materials. An apparent majority of the property owners had signed a petition for bitulithic pavement, the minority favoring macadam. As the Board of Contract and Supply was about to award the petition a representative of the advocates of macadam arose in the meeting and said he had a majority petition for macadam. He said the number of property owners had increased from 52 to 75 owing to a number of transfers of property made that morning. It seems that property owners who favor no pavement more expensive than macadam conceived the idea of upsetting the bitulithic proposition by suddenly multiplying the number of abutting owners. As a result all bids were rejected.

SEWERAGE AND SANITATION

Eighteen-Ton Roller Destroys Sewer

Akron, O.—In the course of some excavating for water pipes to supply the Firestone Fire and Rubber Company's plant it was discovered that the top of the sewer in Sweitzer avenue was broken in. A man was sent through the sewer, and he found it in bad condition throughout. The top of the sewer is only 2½ feet below the level of the street, which was recently paved. An 18-ton roller belonging to the city was used in the construction.

Commission to Combat Tuberculosis

Pittsburg, Pa.—Public Safety Director E. G. Lang has announced his appointments as members of the Commission for the Cure and Prevention of Tuberculosis, as authorized by Councils. They are Dr. J. F. Edwards, Superintendent of the Pittsburg Health Bureau; Dr. William Charles White, Joseph Reiman, Dr. Stanley H. Rinehart and Otis Childs. They are all connected with the Pittsburg Tuberculosis League and the State Dispensary and have been quite active for several years in an endeavor to organize Pittsburgers in a systematic fight against consumption. The ordinance establishing the Commission also provides for the appointment of five trained nurses in the overcrowded districts.

Should Inspect Milk Peddled by Unlicensed Dealers

Rochester, N. Y.—Methods of milk inspection by the Health Bureau, of which Dr. George W. Goler is the head, are criticised by the Grand Jury, which has concluded its work of investigation. In its recommendations the statement is made that the Grand Jury finds that 10 or 12 milk dealers of the city have been peddling milk without a license, and their milk has not been tested during the past six months. These peddlers serve from 1,100 to 1,200 customers, aggregating a population of 5,000 or 6,000 people, whose health, according to the Grand Jury, has been jeopardized by not having the protection of proper milk inspection. The recommendation says:

We cannot reconcile the attitude of the Health Bureau in directing its inspectors not to inspect the milk of these 10 or 12 peddlers, simply because they had no license; we find that in one instance where the inspector violated the order given it was found, on analysis, that the milk was much below the standard, and that the peddler was arrested and convicted. If one peddler, immune from inspection, served impure milk, is it a fair assumption that the others profited by the same lack of official attention, or was their product above the State standard?

Crusade Against Bakeries and Poultry and Fish Stores

Cleveland, O.—Inspection of bakeshops in the Woodland and Orange avenue district and on Broadway was recently made by Health Officers, and filth of several days' accumulation was found in rooms where the baking was done. Some bakers said they cleaned up only once a week. In some cases dirt and refuse were swept aside into corners and allowed to stay there for days. Workmen came into the shops from other work and began the day's baking without washing their hands. The odors were almost unbearable to those unaccustomed to these places. In nearly all the bakeshops visited employees mixed the bread and biscuit dough with their bare hands, and in many instances the men's hands were grimy with dirt. Rolls, loaves of bread and pastry were exhibited in dirty show windows, patrons handled the food products indiscriminately, and children ran in and out from the street carrying the dirt and filth of the mud-bespattered thoroughfare with them. In one instance the investigator saw an employee come direct from the stable, where he had been at work, to the dough-mixing pans. Without stopping to clean his hands he began to help in mixing the dough. Custards and similar mixtures were made with hands far from clean. Icings for cakes were mixed in pans that looked as though they were total strangers to soap and water. The majority of the fish markets were closed in the districts; so were the poultry selling stores, but a glance through the windows showed most of the floors littered with feathers and fish scales. Even the closed doors were not enough to keep out the odors. Lack of sufficient space seems to be the prevailing ailment in many of the stores of this neighborhood. Sanitary officers say that the cramped quarters no doubt account for some of the dirt and filth. They declare it is impossible to keep a store in a 10 x 15 room in a cleanly condition. Many of these stores have no more room than this.

Muncie Orders Inspection of Milk

Muncie, Ind.—The City Council has passed an ordinance calling for the inspection of milk supplied to Muncie by dairymen and for the inspection of dairies by a competent inspector, who will have a knowledge both of chemistry and of the dairy business. The ordinance comes as a result of the agitation of the public over the discovery of impurities in some of the milk sold here, the uncleanliness of certain dairies and the tracing of several cases of typhoid fever to the finding of bacilli in the milk.

Provision for Disposal Plant in Neighbor's Territory

Philadelphia, Pa.—A bill has been introduced in the Legislature by Senator Van authorizing municipalities to condemn ground either within their limits or in adjoining counties for the purpose of building sewage disposal plants. A purchase of about 1,000 acres of land has recently been made in Tinicum Township, Delaware County, just across the boundary line of the Fortieth Ward, Philadelphia. It is stated that the ground is ultimately intended as the location for the city's disposal plant and that the purchase was made with a view to possible profits.

Pollution of Lakes Prohibited

Montpelier, Vt.—According to an act of the Legislature approved by the Governor, the pollution of lakes and ponds by the discharge of sewage and other waste matters is prohibited after October 1, 1910. The act applies to lakes of over 1,000 acres being wholly within the State of Vermont. Penalties for violation range from \$20 to \$200.

Trentonians Get Sewage Warning

Trenton, N. J.—Notice has been served by the State Board of Health on the American Bridge Company, the People's Brewery Company, a majority of the rubber companies, practically all the potteries and a number of other factories of Trenton, that they must stop polluting the Delaware River with sewage and other waste material not later than July 1 next.

WATER SUPPLY

Dry Town Closes Water Works

Athens, O.—The municipal light and water plants at Gloucester have been closed down indefinitely on account of a lack of funds in the city treasury with which to keep them in operation. Both plants have been maintained with the revenue derived from the saloon tax and the county has voted dry.

State Board of Health Endorses City Water

Columbus, O.—In order to satisfy the doubts which some people have felt regarding the quality of the new filtered water supply Dr. C. O. Probst, State Health Officer, states that the city water has been analyzed in the State laboratory, and found to be absolutely safe. There is nothing in it that would harm a baby, and he does not hesitate to recommend the use of it for all purposes. The only thing that could possibly stand in the way of a State endorsement of the water is the fact that the machinery is new, and there is liable to be a break at any time. As long as the machinery is working as it has been for the past two or three months there is no danger in drinking the water and using it for all purposes. In fact, many physicians agree that it is better to drink than much well water about the city, and recommend it above other waters. W. W. Jackson, engineer in charge of the water purification works, states that nothing but soda ash and lime were being used. No iron has been used for months, and may not be used again as long as such satisfactory results are being obtained as at present.

Water Purification Begun in New Orleans

New Orleans, La.—At a meeting of the Sewage and Water Board Superintendent Earl, in a talk on the water purification, said the work was sufficiently advanced to permit operation of the filters, and for the last week or so the water has been coagulated, and in a sufficiently satisfactory manner to put filtered water through the mains. The contractor has not yet finished with his work, as certain minor matters must be adjusted to secure the smooth operation of all parts of the plant. It shows that the plant is doing what it was designed for and is yielding a satisfactory filtered water at a fair cost for purification. The rate of consumption at present is too low for satisfactory operation, but that will be cured when the lines are blown out, and more especially when the water is turned into the mains of the New Orleans Water Company. Mr. Earl said it would be a tedious and costly piece of business to get the mud out of the old mains of the present water company, and it would waste a great quantity of water that is filtered. Mr. Earl said he felt that it would take a great deal of scouring to get the mud out of the old company's mains, and scouring at high velocity. The users of the water could be governed by the color of the water.

Has Great Water Supply

Hamilton, O.—The city of Hamilton has a source of water supply greatly beyond its present needs, according to John W. Hill, a consulting engineer of Cincinnati, who designed and rebuilt the present Hamilton water works. Water is taken from wells located on Campbell's Island, a short distance north of the city. At present there are 20 8-inch wells, from which about 12,000,000 gallons daily could be taken. With the addition of larger pumps this could be increased to 20,000,000 gallons a day.

Wants City Departments to Pay for Water

Gloucester, Mass.—In the report of the Water Commissioners sent to the Municipal Council the Board suggests an ordinance that will oblige the city to pay for its water. It is estimated that over \$20,000 worth of water is used annually by the city departments, from which no revenue is received, based on a rate of 14 cents each 1,000 gallons which it costs the department.

STREET LIGHTING AND ELECTRIC POWER

To Control Water Used for Power

Harrisburg, Pa.—Representative Ailman, of Juniata, has presented in the Legislature a bill to conserve the water power of the State by limiting water power company charters. It is made unlawful to divert the course of a stream, and the discharged water must re-enter its channel so near the dam that no injury shall be done to adjoining property. When electric power is produced its transmission to all available points for use is permitted. All charters expire 33 years from the date of issue. The person, firm or corporation using 50-horsepower or less will escape the tax provision of the bill. Those using more than 50 and not exceeding 500 horsepower shall pay to the State 5 cents per horsepower per annum. For all above 500 horsepower the tax is \$1 a year. No taxing is to be done until three years after the issuing of the charter. No person, firm or corporation shall get water power in excess of 1,000,000-horsepower.

Effect of Prohibition on Electric Lights

Mansfield, La.—The City Council has sold the city electric light plant to J. L. Logan, of Texarkana, Tex., for \$6,150. This deal is an echo of the recent prohibition election, at which the town went "dry." The light plant cost the city about \$8,000, and when it was purchased the whisky revenue amounted to \$5,000 per year, and it was pledged to meet the deferred payments on the light plant. On January 1, 1908, the payments became due and the city was unable to meet its obligations, but arranged with one of the local banks to carry the paper. In January last the town was again unable to meet the payments, and the sale followed as a necessary consequence. It is understood that the purchaser represented the Mansfield Ice Company in the deal and that the two plants will be consolidated.

Fewer Lights Out than Ever Before

Syracuse, N. Y.—The lowest percentage of outages for street lights of any month since the Bureau of Gas and Electricity was organized, more than a year ago, occurred in January, 1909, according to a report submitted to Commissioner of Public Safety Harlow C. Clark by Superintendent H. J. Blakeslee. But 166 street arc lamps were out and the total number of hours of the outage was 291.15 out of a possible 633,524.34, a percentage of .046. Out of 1,053 gas meters tested 754 were found to be correct, 93 were slow and 65 were otherwise out of order. No less than 22 records of gas pressure were taken, the lowest showing 19.6 candle-power, or 1.6 candle-power more than the statute requirement.

Asking for Cheaper Gas

Utica, N. Y.—A petition asking for cheaper gas in this city is being circulated and already has a large number of signatures attached to it. The petition is addressed to the Public Service Commission, which has the power to investigate the conditions and fix the rates. If a petition having 100 names attached to it is presented the Commission is obliged to make the investigation and determine whether a change should be made or not. The present rate in this city is \$1.25, whereas Syracuse and several other cities in the State have a \$1 rate and some an 80-cent rate.

Right to Modify Lighting Agreement Questioned

Warsaw, Ind.—The question as to whether a City Council has the right to enter into an agreement with a light company holding a franchise with the city to operate the system on a moonlight schedule, while the franchise calls for an all-night schedule and to accept coal from the company for the money saved in not operating the plant is confronting the Warsaw Council. Councilman J. L. Irish told the other members of the Council that they had practically nullified the contract with the light company by entering into the agreement.

FIRE AND POLICE

Duties of Policemen Regarding Accidents

Haverhill, Mass.—Special instructions have been issued to policemen regarding their duties in the matter of accidents on highways, as follows:

Every officer of the police force, regular or special, on or off duty, should be constantly vigilant and on the alert to notice and observe any accident, however trivial or slight the same may appear, which happens in or upon the streets, highways, sidewalks or public buildings of the city.

When such officer sees a person fall on the sidewalk or in the street or sees a person struck by a city team or injured by a city employee in any way it should be his duty to get the name of the person injured; get the names of as many witnesses to the accident as possible; locate the exact spot at which the fall or accident happened; call the attention of witnesses to the exact spot where the accident happened; find out, if possible, where the injured person is taken after the accident; inquire as to the extent of the injuries; note whether the person requires assistance, either in getting up from the ground or in walking away; note immediately, in writing, any remarks which may be made by the injured person; report all information obtained immediately to the inspector or officer in charge of the station house.

If an officer does not see but hears of an accident recently happening on his beat he should proceed to find out at once such facts as he may with regard to that accident, interviewing such witnesses of the accident as he can find, getting such witnesses, if possible, to point out the exact place where the accident occurred, and carrying information as soon as gathered to the inspector or officer in charge at the station.

It should be understood by every officer that he should report any accident, however trivial it may appear. If a person is seen to fall on the sidewalk, and says, on arising, "No harm is done. I'm all right," it should make no difference to the officer. He should proceed to get all information as above suggested as though the fall had resulted in a broken limb.

Information thus furnished by the officer to the inspector should be acted upon immediately. All witnesses to an accident whose names have been furnished should at once be interviewed and their statements and the attending circumstances should, wherever possible, be obtained in writing over their signatures.

In general, every officer should understand and appreciate that it is as much his duty to preserve the public peace, to get information and exact descriptions of any accident which may by any possibility mean a suit against the city for damages.

Year's Fire Loss \$6,000,000

New York, N. Y.—According to the annual report of Peter Seery, Fire Marshal, there were in the boroughs of Manhattan, Richmond and the Bronx 8,642 fires during 1908. The estimated fire loss was \$6,197,893, an average loss a fire of \$717.18. There were 163 more fires in 1908 than in 1907, but the average loss a fire decreased \$40.40. Almost twice as many fires resulted from carelessness in handling matches as from any other cause, the number of such fires being 741. Carelessness with cigarettes or cigars, the next greatest cause, resulted in 483 fires. Overheated stoves caused 417, defective flues and chimneys 392, carelessness with candles 371, children playing with matches 237, and gas lights in contact with curtains 205. Only 330 fires caused losses greater than \$1,000; 3,057 fires did less than \$10 damage. The Fire Marshal raps the insurance companies for issuing policies on property already fully insured. Many fires, he says, occur where the insured have policies in different companies amounting to many times the value of the property.

Mounted Policemen for Knoxville

Knoxville, Tenn.—After the official budget for the year is passed by the City Council the Board of Public Works will purchase six horses, and provide mounted policemen for the outlying wards if the Council adopts the Board's recommendation, which is expected to be done. This will give more men for the congested district in the business section. Another improvement that will be made in this department is the measurement system, which Chief Chandler has been advocating during his service as Chief.

To Keep Fire within Harbor

Gloucester, Mass.—The local Board of Fire Underwriters has complained to Council regarding the contract with the owners of the lighter which has been equipped for use as a fire boat. The contract permits the owner of the lighter, with the permission of the Board of Engineers, to take the lighter outside of the harbor limits. As the members of the Board do not consider it incumbent on them to refuse the permission when requested, the boat has been outside of the harbor several times lately. The underwriters request that the present contract be amended so as to require the keeping of the fire boat inside of the breakwater.

Establishes Volunteer Fire Police Force

Lebanon, Pa.—An ordinance has been passed establishing a volunteer fire police force. Each volunteer company will elect three men to serve as fire policemen. It shall be the duty of the fire police to care for property endangered by fire; to span the necessary ropes required to keep non-firemen from interfering with the duties of firemen while engaged in extinguishing fires; to preserve order at fires; to prevent any interference with the regular firemen in the discharge of their duties; to execute all orders of the Chief Engineer of the Fire Department and his assistants, and to enforce all the rules and regulations governing the Fire Department of the city of Lebanon, Pa.; and, while in such service, the fire police shall have the power of the regular police force, to arrest persons unlawfully interfering with them or with any firemen in the performance of their duties.

State Fire Marshal for Illinois

Springfield, Ill.—A bill is now pending in the Legislature providing for the creation of the office of Fire Marshal. The Marshal is to be paid \$3,000 a year and will have two assistants at \$1,500 and \$1,800 respectively. The duties of the office will include the keeping of a vigilant watch on the operation of local fire departments and investigating the various kinds of fires and their causes. In cases of incendiarism it will be the Marshal's duty to find the culprits. The bill is the result of good reports received of the work of Fire Marshals in other States.

Safety System for Tacoma Firemen

Tacoma, Wash.—The death of a fireman killed in a collision with a street car has started an agitation for the establishment of a semaphore system in the downtown district such as now in use in Seattle. The installation of nine light and bell semaphores is suggested. With this system in operation, when an alarm comes in from the downtown district the operator at headquarters shifts the key controlling the semaphores. An electric red light reading "Fire" would flash from the boxes and an 18-inch gong would ring. It is also proposed to pass an ordinance requiring all cars to stop while the gongs are ringing. When the alarm comes from the residence district the signal system would not be used.

Paid Fire Department for Wilmington

Wilmington, Del.—The City Council has made the first definite move in the project to inaugurate a paid fire department, a proposition that has been discussed for several years. The Fire Committee was instructed to get from cities of Wilmington's size all possible data bearing on the subject, in order to learn what is needed and how much a paid department will cost. This information will be submitted to Council, after which a bill will be authorized and sent to the Legislature, empowering City Council by a loan to acquire the property of the present volunteer department and to secure sufficient money to maintain a paid department. It is proposed to have nine companies, with eight men to a company. There are at present 12 volunteer companies, each owning all its apparatus, horses and buildings. The volunteers are strongly opposed to a paid department, but public opinion seems to favor the change.

GOVERNMENT AND FINANCE**Would Relieve Mayor of Police Court Duties**

Akron, O.—Representative Charles W. Kempel has a bill before the General Assembly providing for the creation of the office of Police Judge for Akron. This is intended to relieve future Mayors from the Police Court routine and enable them to look after other things in connection with the management of the city and its departments.

Would Raise Valuation of Central Property

Hartford, Conn.—The city has an entirely insufficient revenue, according to Mayor Edward W. Hooker. Not a single department has the funds it needs to carry on its work. The cause for this, the Mayor says, is too low valuation of central property. The assessed valuation has not been increased to correspond with the added earning power of the property. The valuation has been increased about 25 per cent in as many years, but the actual income production has grown to many times that. Most pieces of central property would sell for two or three times their assessed valuation. The city needs an increase in income of \$300,000 yearly, and it can be obtained fairly in the way suggested, Mayor Hooker says.

Auditors Suggest Improved Tax Records

Burlington, Vt.—Auditors engaged by the city have suggested the following about keeping the tax records:

1. That a map be prepared, laying the city out in blocks and lots.
2. That tax ledgers be opened, showing an account for each lot, and a card index prepared, showing ownership of said property.
3. That all delinquent taxes and assessments be charged against such property.
4. That each year, after the tax levy and the assessment roll have been prepared, such taxes and assessments be charged against the lot or lots in the tax ledgers.
5. That all cash payments, abatements, refunds, etc., be credited to these individual lot accounts.

The auditors are of the opinion this would show the delinquent taxes and taxpayers at once.

Recall Election Will Be Held

Los Angeles, Cal.—The petition of voters asking the recall of Mayor A. C. Harper from office has been filed by the Municipal League with the City Clerk, and according to its sponsors, more than 10,000 attested signatures are on the list. As the total vote at the last municipal election was 31,388, and but 25 per cent are required to the petition demanding the Mayor's recall, the list has more than 2,000 names over what is necessary. As soon as the City Clerk has concluded the work of comparing the signatures with the great register, the petition will be passed up to the City Council, which, under the law, must call a special election within 30 days to choose a successor to the Mayor. Mayor Harper will be a candidate to succeed himself, but the candidate who will head the recall ticket has not been decided upon.

Lynn's Mayor Economizing

Lynn, Mass.—Mayor Rich has notified the different city departments that expenditures must be kept down and every effort made not to have the tax rate go above \$20 the present year. "A tax rate of \$20 is at least \$2 too high for a city like Lynn," says the Mayor. "The work of departments must be supervised in such a manner that the best results be obtained with smaller expenditures and consequent less appropriations. The city is owed money for sidewalk and sewer construction, also for water and work done by the Board of Health, as well as back taxes. These sums must be collected." The City Council Finance Committee has been struggling with the financial question endeavoring to agree upon an appropriation bill that will carry a sufficient sum to run all departments and yet not cause a raise in the tax rate.

No Other Jobs for Councilmen

Salem, N. J.—A long-looked-for opinion of City Solicitor Ware to the Council as to the legality of a member holding the office of Street Commissioner and drawing the salary of the job was presented at a recent meeting with a large attendance of citizens interested in the subject. The Solicitor was emphatic in the statement that the law and the charter expressly forbid the dual office-holding, and as a result Councilman George P. Dixon, of the East Ward, immediately resigned as Street Commissioner. Councilman H. W. Sinnickson, of the West Ward, is sticking to his job, and it is said will prefer to resign from Council.

Commission Government for Salt Lake

Salt Lake City, Utah.—Bills have been introduced in both houses of the Legislature providing for commission forms of government for cities of the first class, Salt Lake being at present the only city in that class. Under the provision of the bill the offices of Mayor and Councilmen of cities of the first class are abolished at noon on the first Monday in January, 1910. Their successors are to be a Board of five Commissioners, consisting of a Mayor and four Commissioners, to be elected at large. The only other city officer to be elected is the City Auditor. No changes are made in the government of cities of less than the first class, though the provisions of the statutes relating to their government are re-enacted in the bill. In cities of the first class the Mayor is to be the Chairman of the Board of Commissioners. The Mayor presides at all meetings of the Board, and has the right to vote on all questions coming before it. The bill gives the Board the power to subpoena witnesses, to administer oaths and to examine into matters under the same conditions as judges of the District Court. The Mayor is given no veto power. The Commissioners are required to print each month in pamphlet form an itemized statement of all receipts and disbursements of the city and a summary of their proceedings during the month. At the end of each year all books and accounts of the city are to be audited by expert accountants, and a complete report is to be made for the year. If any vacancy occur in the office of Mayor, Commissioner or Auditor the vacancy is to be filled by appointment by the Board of Commissioners. If the Commissioners fail to fill a vacancy on the Board within 30 days the Auditor shall sit as a member of the Board for the purpose of filling the vacancy only. The Board of Commissioners is given the power to exercise all executive, administrative and legislative powers now possessed by the Mayor, City Council, Board of Public Works, Park Commissioners, Library Trustees, City Attorney, Treasurer, Recorder and all other city officers.

Town Moves to Avoid Bond Paying

Ulysses, Kan.—Escaping payment of \$35,000 bonds and \$1,000 interest, Ulysses, capital of Grant County, is located a mile and a half outside of its own city limits. Only a frame court house and a school building mark the spot where 20 years ago stood a prosperous village of 1,200 inhabitants. The bonds, which were issued 20 years ago to build water works and make other municipal improvements are held by an Eastern national bank. When the bank commenced legal proceedings last October to collect the bonds, which amounted to more than the entire assessed valuation of the town property, the people of Ulysses decided to move. The case was postponed until the March term of court and the townsmen busied themselves in removing their houses, stores and offices outside the corporate limits. When the task was completed news of the strange action was given to the world. No railroads run through Grant County and the nearest telegraph station is 24 miles from Ulysses. It was an easy matter to maintain the secrecy necessary to prevent an injunction being issued which would stop the wholesale movers.

Chamber of Commerce Favors Commission Government

Pittsburg, Pa.—The Committee on Municipal Affairs of the Pittsburg Chamber of Commerce has recommended the drafting of a bill to establish the commission plan of government. The report states that Councilmanic form of government does not bring out the best ability for the legislative bodies of the city, and that since the commission form of government has proved a success its adoption in Pittsburg would, it is believed, greatly increase the efficiency, intelligence and economy of the city municipal administration.

REFUSE COLLECTION AND DISPOSAL

City Crematory Saves \$2,300 Heating Bills

Minneapolis, Minn.—That the Minneapolis Health Department, through the utilization of heat from the city garbage crematory, had saved the city \$2,300 in heat and electricity at the city workhouse and the tubercular hospital was the contention made by Alderman Platt B. Walker before the Health and Hospitals Committee of the City Council. He wanted the institutions benefited to pay the Health Department for the service, but the rest of the committee could not follow his argument to that extent.

Wants Municipal Collections and Incinerators

New Haven, Conn.—The report of President James Maher, of the Board of Health, states that the collections of garbage were as usual very bad during the past year. The whole thing in a nutshell, says the report, is this: If the city will appropriate as much money as other cities do for this work, the collections here will be as good as any. The recommendations in order are:

1. Municipal collection of garbage.
2. Municipal collection of ashes and rubbish.
3. If 1 and 2 are adopted by the city it should build one or two incinerators or destructors which use the ashes and rubbish to burn the garbage without the addition of coal.

4. The energy developed should be used for profit, so as to lessen the net cost of keeping the city clean. New Haven's refuse would furnish enough electricity to light 1,000 to 1,350 arc lights of 2,000 candle-power each. Cost for incinerator and boilers, \$170,000; cost for electric power plant, \$60,000. Total, \$235,000. The energy might be used to make about 170 tons of artificial ice a day or cool a cold storage plant.

5. If the city will collect but will not build a destructor, the garbage will be taken away daily from the wharf in scows by the National By-Products Company, for 66 cents per ton. Cost, according to this plan, would be: For collection of garbage, about \$35,000; for disposal to By-Products Company, about \$10,000. Total per annum, \$45,000. This is the cheapest sanitary method of disposal.

6. If recommendation 2 is adopted and 3 is not, the ashes and rubbish would be taken to dumps. The piggeries cannot last much longer. Next June the surrounding towns shut out the garbage from the city. If dumping garbage is a nuisance in the surrounding towns it must surely be a nuisance in the city. The people living near the piggeries have all demanded that they be abolished, the New Haven Medical Society has asked that they be abolished, and if the Board of Health refuses much longer to act the courts will undoubtedly order the piggeries condemned.

War on Waste Paper Nuisance

Philadelphia, Pa.—Mayor Reyburn has promised to back up Chief Virdin, of the Street Cleaning Bureau, in an attempt to rid the city of the waste paper nuisance, which, the Chief declares, is a serious handicap in keeping the streets clean. The attention of Chief Virdin's complaint was brought to the Mayor following the receipt by Public Works Director Stearns of a letter from Mr. Virdin, complaining against certain advertising circulars published in the form of newspapers and distributed free by boys, who throw them on porches, steps and anywhere indiscriminately. Chief Virdin had just returned from an inspection of the Fifth District, which is included in the territory bounded by Poplar street and Lehigh avenue, and Broad street and the Schuylkill River.

RAPID TRANSIT

Three-Cent Fare Deficit Grows

Cleveland, O.—A deficit of \$65,827.66 for the month of January is shown in a report to the United States Court, submitted by the receivers of the Municipal Traction Company. The statement covers the operation of the street car system under 3-cent fare, and the shortage is said to be the largest for any month since the property was leased to the municipal company. The total deficiency under the nine months' operation at 3-cent fares is \$229,678.47. The January deficiency is attributed by the receivers to extensive improvements in the service, combined with a dull winter month. January was the last month of universal 3-cent fares, the higher rate of 5 cents cash or eleven tickets for 50 cents on all lines where franchises permitted the advance going into effect February 1.

Across Ohio by Trolley

Cleveland, O.—By the completion of a trolley line between Seville and Ashland, O., a gap is closed which makes possible continuous trolley travel between Cleveland, Columbus, Cincinnati and Indianapolis. On February 10 there was inaugurated through limited service between Cleveland and Mansfield, making direct trolley connections with Columbus, Dayton, Cincinnati, and Indianapolis. Later in the year through limited service between Cleveland and Columbus will be established.

Tunnel to Grand Central Depot

New York, N. Y.—The Hudson Tunnels Company has filed with the Public Service Commission an application for a franchise to extend its subway system from its present terminus at Sixth avenue and Thirty-third street to the Grand Central Station, connecting there with the Interborough subway and the Belmont, or Steinway, tunnel. According to the plans of the proposed McAdoo extension, the tunnel will continue through Sixth avenue to Fortieth street, where it will turn eastwardly under Bryant Park and reach Forty-second street west of Fifth avenue, continuing under the present subway to the Grand Central Station. The Commission will probably interpose the same terms as for the McAdoo tunnel extension from Christopher to Thirty-third street on Sixth avenue, which was 50 cents a linear foot for the first 10 years, \$1 for the next 15, and a readjustment at the end of 25 years. In addition the city gets 5 per cent of the gross receipts and rental for vault spaces occupied by the stations.

Rapid Transit Plans for Pittsburgh

Pittsburg, Pa.—To enable the County Commissioners of Allegheny County to solve the traffic problem for the 100,000 people living back of the hills of the South Side of Pittsburg a bill was introduced in the Legislature by Representative James L. Adams. This measure authorizes the County Commissioners to construct, operate and maintain bridges, tunnels and subways within cities or between cities, townships and boroughs, the bill having particular reference to the construction of a bridge over the Monongahela River and a tunnel under Mount Washington. With the approval of a Grand Jury and the Court of Quarter Sessions, the Commissioners are authorized to take by purchase or condemnation such private property as is necessary, and to let the contracts for construction and equipment to the lowest responsible bidders. To raise money for this work the Commissioners are empowered to levy and collect a 2-mill tax on all real and personal property in the county, and to issue 30-year bonds in amount not exceeding one-half per cent of the assessed valuation of real and personal property in the county. The Commissioners may lease the concurrent, but not the exclusive, use of its bridge and tunnel, with the approval of the Quarter Sessions Court, to street railway or transportation companies for periods not exceeding 20 years.

MISCELLANEOUS

Interborough Amenities

Brooklyn, N. Y.—The city cannot lease to advantage valuable property in Wallabout Market, Brooklyn, because it is situated on Lemon street. "That name is so ridiculous and such a hoodoo," said Comptroller Metz, at a meeting of the Sinking Fund Commission, "that tenants will not do business on a street so named." "Why not change the name then to Coler avenue?" asked Mayor McClellan, without a smile. "Why! that would be equivalent to the present name," answered the Comptroller, without batting an eyelash. "Isn't Lemon a good name for any street in Brooklyn?" asked Vice-Chairman Sullivan. The Commission decided that the prospective tenants could get together and change the name to any they desire.

Propose City Architect

Detroit, Mich.—Several city officials have expressed themselves as in favor of creating the office of City Architect, which they say would save the city approximately \$50,000 the coming year, and more in years to come, when the city will build a contagious disease hospital, a \$1,000,000 convention hall, a new pumping station and several schools and engine houses. At present the various city departments hire their architects, paying them a percentage of the cost of the building. The advocates of the new office cite the fee paid John Scott for designing the county building, for which he received \$90,000. This, they say, would pay a city architect's salary for ten years. Some would favor having the new office as an adjunct to the City Engineering Department.

Modifies Speed Law

Fort Worth, Tex.—Auto enthusiasts may run just a bit faster in the residence districts, according to ordinance duly passed by the City Commission, but while running along the business streets they must check up—that is, they must still confine themselves to a speed of eight miles an hour; but in the residence districts they may now run fifteen miles per hour, where twelve miles was the limit granted before. Commissioner Mulkey, as the head of the Police Department, realizes how frequently the speed ordinance is broken. Hence when the matter was called up he expressed a wish that the limit be increased to twelve miles on the business streets and sixteen on the residence. The limit heretofore has been eight and twelve miles respectively.

Practical Suffragettes Carry Election

Pelham, N. Y.—There was a lively time here Feb. 16 when the women of this place, Pelham Heights, Pelham Manor and North Pelham voted on a proposition to erect a new Town Hall. Women in automobiles and wearing expensive gowns and furs rubbed elbows with those who had left their wash-tub and household duties to cast their ballot for or against the proposition, as they saw fit. When the votes were counted it was found that the first proposition to build a new Town Hall to cost \$25,000 had been carried by a vote of 86 for as against 82 in opposition. The second proposition, to purchase an additional piece of ground for \$5,000, was lost, however, by a vote of 92 to 70, some of the women not voting on it at all.

To Carry City Flag

Toledo, O.—Before long, in all probability, all of the wagons of the City Street Department, twenty or twenty-five in number, will appear with the new civic flag stenciled in colors on the sideboards. Superintendent Peter McNerney is planning this innovation. Shortly the flag will appear on some of the official stationery of the city. The new design for a city seal, later to be impressed on all bonds and other documents of an official character, is now being worked out.

LEGAL NEWS

Summary and Notes of Recent Decisions—Rulings of Municipal Interest

REGULATING TRANSPORTATION OF GARBAGE

Buffalo Fertilizer Company vs. Town of Cheektowaga et al.—Though a Town Board can properly regulate the mode of transportation of garbage over its streets, its ordinance, prohibiting any one transporting garbage over the town streets without the written consent of its Commissioner of Highways, and declaring a penalty for so doing, is an illegal attempt to license; this not being within the things enumerated by the Laws of 1906, for which such Board may require a license. An ordinance prohibiting the transportation of garbage over the street of a town without the written consent of its Commissioner of Highways, and prescribing no terms or conditions on which a consent or license shall be given, is void, as giving him arbitrary power in the matter. Where a void ordinance is sought to be enforced one whose interests will be injured thereby may have its execution enjoined.—Supreme Court of New York.

CLOSING PRIVATE WAY

Cutter et al. vs. City of Boston.—Persons owning land having access to public streets only over private ways, through which they have rights of passage appurtenant to their land, are entitled to damages for the closing of such a private way by the raising of the highway into which it leads by an abutment at the junction point; the damage being special and peculiar, the public having no rights in the private ways.—Supreme Judicial Court of Massachusetts.

EXCAVATION BESIDE SIDEWALK

Town of Newcastle vs. Grubbs.—The maintenance of an excavation beside a sidewalk whereby a traveler thereon may, by a misstep, fall into the excavation is a public nuisance. While a municipality is not responsible for what private owners do upon their own premises, and is not in general bound to guard against travelers wandering on adjoining grounds along the highway, if, by reason of the condition of the adjoining premises, the way itself is rendered unsafe, and the public authorities may reasonably protect travelers from the danger, it is their duty to do so.—Supreme Court of Indiana.

PUBLIC WORK—UNDERMINING FOUNDATION

McGrath et al. vs. City of St. Louis et al.—Where the owner of a house adjacent to a public alley in which the city was lowering the grade and excavating knew of the excavation two weeks before the work reached the end of the alley where the house stood, that the work would occupy the whole width of the alley, that his house abutted immediately thereon and was above the established grade fixed by the engineer, and that it would require excavation right up to the wall of the house, and where he also knew the depth of the foundation of his house, which the city did not, his knowledge dispensed with any formal notice by the city of the commencement and progress of the work so as to enable him to support his building, where the plan for the grading of the alley did not call for a trespass or the commission of a nuisance, but only provided for a lawful improvement of an established highway.—Supreme Court of Missouri.

INJURY—TEMPORARY WALK

Jones vs. City of Seattle et al.—In an action against a city for injuries from a temporary sidewalk testimony as to the public necessity of tearing up the original sidewalk, which was not in issue, was properly excluded, especially where the court charged that the city could improve its public thoroughfare even to the extent of making it more dangerous than originally. In an action against a city and a contractor for injuries from a temporary sidewalk, the city being primarily liable for the injury, the direction of a verdict for the contractor was not prejudicial to the city.—Supreme Court of Washington.

ICY SIDEWALK—RESPONSIBILITY

Sayfaus vs. City of Rochester.—Under the express terms of Rochester City Charter the city is not liable for injury to a pedestrian falling on a sidewalk on account of accumulated ice, unless written notice of the particular condition of the sidewalk was given the Commissioner of Public Works a reasonable time before the accident.—Supreme Court of New York.

TELEPHONE LINE—MUNICIPAL CONSENT

Dakota Central Telephone Co. vs. City of Huron.—Revised Civil Code S. D., Sec. 554, provides that "there is hereby granted to the owners of any telegraph or telephone lines operated in the State the right of way over lands and real property belonging to the State and the right to use public grounds, streets, alleys and highways in this State subject to the control of the proper municipal authorities as to what grounds, streets, alleys or highways said lines shall run over or across and the place the poles to support the wires are located." Constitution S. D. provides that "no * * * telephone line shall be constructed within the limits of any village, town or city without the consent of its local authorities." A city ordinance provided that "the right is hereby granted to * * * his successors or assigns to place, construct and maintain upon and through the streets and alleys" of the city a telephone line, "subject, however, to all conditions and stipulations herein set forth." It required the grantee to accept the ordinance in writing and to construct the line within four months, which he did. It also provided: "Sec. 10. The term of this franchise shall be for ten years from and after its passage." The grantee operated the telephone system for six years, and then conveyed the same to complainant, which was a corporation organized under the laws of the State and by its charter authorized to purchase, lease, construct, and operate telephone lines and exchanges. Held, that by the ordinance, and its acquiescence in the construction of the line by its grantee, the city consented to such construction within the meaning of the constitutional provision; that the right of complainant to maintain and operate the line was not derived from the city but from the State, and was not affected by the limitation in section 10 of the ordinance. The consent of a city granted by ordinance to a person and his successors and assigns to construct a telephone system within its limits is not a franchise, although such consent is necessary under the Constitution and statutes of the State.—Circuit Court of South Dakota.

PAVING ASSESSMENTS—REPAVING

Carstens et al. vs. City of Fond du Lac et al.—The Fond du Lac city charter was amended by Laws 1885, so that two-thirds of the cost of street paving might be charged against abutting property, leaving one-third to be paid by the city, but the amendment provided that this provision should not apply to any subsequent repaving of a street which had been or which should afterwards be paved and the whole or any portion of the expense of such improvement borne by the land abutting the improved portion of the street. In 1904 the city adopted the portions of the general charter law relating to street improvements in lieu of those in the special charter. Held, that such adoption repealed the provisions of the special charter relating to such improvements, and therefore the city, on repaving a street, could assess the cost of such repaving on the abutting property owners.—Supreme Court of Wisconsin.

ADVERTISING ON WAGONS

Fifth Avenue Coach Company vs. City of New York.—Under Greater New York Charter as amended by Laws 1905, authorizing the Aldermen to make ordinances as they may deem proper for the good government of the city and to regulate the use of the streets for signs and the exhibition of advertisements, and in reference to the running of trucks, etc., an ordinance providing that no advertising wagons shall be allowed in the streets of a borough except business notices on ordinary wagons engaged in the usual business of the owner not merely for advertising, is valid when applied to vehicles used by a corporation for the transportation of passengers and carrying on the exterior advertising matter pursuant to a contract therefor, where such vehicles used congested streets owned in fee by the city, and when the corporation had no franchise to maintain such advertisements.—Court of Appeals of New York.

TAX SALE—OWNER

Rogers vs. City of Lynn.—Where a statute limits the right of redemption from a sales of land for taxes to the owner, the word "owner" is not limited to the person who owned the land when the tax from which redemption is sought was assessed, but includes a purchaser of the land at tax sale, who thereupon becomes entitled as owner to redeem from prior sales. Where, after land had been sold to a city for prior taxes, plaintiff purchased the same at a subsequent tax sale, and the city conveyed its interest to him in consideration of the amount due on its tax lien, such transaction operated as a payment of the prior taxes, and hence to that extent the conveyance was not void, either for failure of title or consideration.—Supreme Judicial Court of Massachusetts.

FORT WORTH CHARTER—VALIDITY

Orrick vs. City of Fort Worth et al.—The Fort Worth City Charter was not unconstitutional as a delegation of legislative power to the people of the city, because section 164 provided that, if the majority of the votes cast at an election provided for should be against the new charter, then the act should be of no force and effect; the proper construction being that the act should take effect immediately, but should cease in case of an unfavorable vote. The Fort Worth City Charter is entitled "An act to incorporate the city of Fort Worth, to grant it a new charter, to define its powers, prescribe its duties and liabilities, and provide for its approval by the qualified electors of the city, and to declare an emergency." Held, that the act was not invalid city of Fort Worth, to grant it a new charter, to define its title, because, in addition to providing a complete plan of civic government of the municipal body, it also declared that the city should constitute an independent school district, and provided for the administration of the schools therein.—Court of Civil Appeals of Texas.

EMPLOYMENT AGENCY—REGULATION

City of Spokane vs. Macho.—A city ordinance must be fair in its terms, impartial in operation and general in application. A city under the police power may license and regulate employment agencies. While a city under the police power may by ordinance classify a business for purposes of revenue, and all necessary and proper penalties may be provided to insure its due enforcement, yet, where the object is regulation, no classification can be made which will render an act criminal when done by a person in one occupation and innocent when done by one in another pursuit, but the ordinance must treat alike all of the class to which it applies, and must include all who are similarly situated, and an ordinance making it unlawful for a person keeping an employment office to make a willful misrepresentation to a person seeking employment through the office, and take a fee for such employment, is invalid, since it makes the obtaining of money by willful misrepresentation which may be done in any business criminal only when done by one conducting an employment office.—Supreme Court of Washington.

REFERENDUM—LEGISLATION

Long vs. City of Portland et al.—The power of the referendum reserved to the people by Constitution, reserving the referendum power to the voters of every municipality as to municipal legislation to be exercised in the manner prescribed by general laws, is not dependent on anything except a provision by general law as to the manner of its exercise. The only acts of the Council of a city that are subject to the referendum by Constitution, reserving the referendum power to the voters of every municipality as to "municipal legislation," are such as come within the term "municipal legislation"; and such legislation must be considered in the sense of general laws prescribed by the law-making power and of general application, and does not include transient orders to and concerning a particular person, and the latter may be adopted without reference to the referendum power.—Supreme Court of Oregon.

SIDEWALK INJURY—DEFECTIVE NOTICE

Carson vs. Village of Dresden.—Where, in an action for injuries to a pedestrian by a defective village sidewalk, plaintiff only identified the place of her injury by testifying that it was in front of T.'s residence, which had a frontage of 90 feet on the street, and though the proof showed that the sidewalk in front of such premises was in a very defective condition generally, there was no evidence identifying the hole into which plaintiff stepped, or describing it in such a manner as to warrant a finding that it was such as to have led defendant's officers, in the exercise of ordinary care, to have anticipated that a pedestrian passing over the walk would be injured thereby, plaintiff could not recover.—New York Supreme Court.

CHANGE OF GRADE—DAMAGES

McQuarter vs. City of St. Joseph.—Whether or not an ordinance providing that a street be graded to a subgrade, according to plans and specifications, the plans under which the work was done providing for cuts and fills to bring the street to a proper grade, contemplated or provided for a change from the existing grade, the work done by the contractor was unauthorized, so that the city was not liable for the damages; the conditions precedent prescribed by Revised Statutes of 1899, as amended by Acts of 1903, for changing by a city the grade of a street so as to change its existing grade, not having been complied with.—Kansas City Court of Appeals.

ABATEMENT OF NUISANCE—ACTION

Sings et al. vs. City of Joliet.—A city in the exercise of its police power may declare a building infected with disease germs a public nuisance and have it destroyed, if that was the only method of preventing the disease from spreading. In the exercise of the police power of a city the maxim that the people's safety is the supreme law, as well as that requiring the use of one's property so as not to injure others, should be given effect, and property may be summarily declared a public nuisance and destroyed without hearing or previous notice to the owner, when necessary to insure the public safety. Under Hurd's Revised Statutes, 1908, giving the City Council power to declare what shall be a nuisance and to abate it, the decision of the City Council that a building was a public nuisance was not final, but the question may be adjudicated in an action for damages for its destruction. The power to declare and abate a public nuisance being given to a city, if it declares property to be a nuisance and destroys it when it is not a nuisance, the city will be liable for the damages sustained by the owner, and the defense of *ultra vires* is not available to it.—Supreme Court of Illinois.

PERSONAL INJURIES—RIGHT OF RECOVERY

Moulter vs. City of Grand Rapids.—Charter of City of Grand Rapids provides that if any claim is made against the city for injuries through any defect in the sidewalks, etc., or by reason of any negligence of the city or its officials or employees in any public work, the claimant shall present the same to the Common Council within sixty days after the injury occurred, etc., and that if the claim arises from injury received by reason of any defect in the sidewalks, streets, etc., the claimant shall file written notice with the City Clerk within ten days after the injury, specifying the location where the injury was received, etc.; said preliminary notice not to take the place of the specific notice required to be filed within sixty days. A section provides that it shall be a sufficient bar to any action on such claim that it has never been presented to the Common Council or notice thereof given, as provided for in the preceding section. Held, that it was intended to provide for two notices in all cases of injuries from defects in sidewalks, etc., the one designed as a preliminary notice to state briefly the location of the defect and its general character, and the other designed as a specific notice to specify in detail plaintiff's claim. Since the right to recover for injuries arising from defective sidewalks, etc., is purely statutory, the Legislature may attach to the right any limitations it chooses.—Supreme Court of Michigan.

EXTRADITION—PORTO RICO

People of the State of New York ex rel. Abraham Kopel, Plff. in Err., vs. Theodore A. Bingham, Police Commissioner of the City of New York.—Precisely the same power to issue a requisition for the return of a fugitive criminal as is possessed under U. S. Revised Statutes by the Governor of any organized territory, is given the Governor of Porto Rico by the provisions of the Foraker act of April 12, 1900, that the laws of the United States not locally inapplicable shall be in force and effect in Porto Rico, and that the Governor of Porto Rico shall have all the powers of Governors of the territories of the United States that are not locally inapplicable. Porto Rico is a territory, within the meaning of the provision of U. S. Revised Statutes, authorizing the executive authority of any State or territory to make requisition for the extradition of fugitive criminals.—U. S. Supreme Court.

SIDEWALK ACCIDENT—DIFFERENCE IN LEVEL

Castel vs. City of New York.—A person cannot recover for injuries due to tripping on an inequality in the sidewalk, caused by a difference in level of two portions of the sidewalk, where the difference at the curb is but $\frac{3}{8}$ of an inch, and this difference is gradually increased to about $1\frac{1}{4}$ inches on the inner side of the walk, which was 19 feet wide, where the person injured was familiar with the locality and it was reasonably lighted, although there was evidence tending to show that others had tripped and fallen at the same place.—Court of Appeals of New York.

GRADE CROSSINGS NOT ILLEGAL

Mayor, Etc., of City of Newark vs. Erie R. Co. et al.—In view of the legislation of this State recognizing that railroads may cross streets at grade, it cannot be held that grade crossings are per se illegal structures even in cities, or that streets are not safe, in the legislative sense of that word, merely because they are crossed at grade by a railroad crossing, but the situation must be such that nothing but track elevation will protect the public.—Court of Chancery of New Jersey.

NEWS OF THE SOCIETIES

City Marshals and Chiefs of Police of Texas.—A meeting of the executive committee of the City Marshals and Chiefs of Police of Texas was held February 10 in the office of Chief J. H. Maddox, of Fort Worth, chairman of the committee. Among other matters considered was the appointment of time and place for holding the association's next meeting. It was agreed that the convention would be held in Galveston May 16, 17, 18 and 19. A legislative committee was appointed to advocate the passage of bills of special importance in connection with the duties of the members of the association. Three bills were mentioned at the meeting, as follows: A bill making it a felony, upon conviction, of all persons found in possession of tools such as are used by professional burglars and safe blowers. Also asking that, in the revision of the anti-pass law, it be so amended as to exempt police officers. An appropriation will also be asked for the establishment of a boys' home. This idea, which had its origin with Chief Maddox, grew out of the urgent need of such a place in connection with the present juvenile laws. Chief Maddox said: "We have laws applicable to boys under 16 years of age, but they stand practically as a blank, because of the fact that there are not provisions made for handling the boys after they have been brought under the law, and for this purpose the boys' home is badly needed." On the legislative committee was placed Chiefs Maddox of Fort Worth, Brandenburg of Dallas, Willis of Mineral Wells, Dispaine of Sherman and McClain of Cleburne.

Municipal Art Society of St. Paul, Minn.—Frederick Lynch was elected president of the Municipal Art Association of the St. Paul Institute Art and Sciences at a meeting of the advisory board of the association. Justice E. A. Jaggard was named first vice-president, Miss Newport second vice-president, and Grant Van Sant secretary and treasurer. The election of officers paves the way for the formation of the committees which will conduct the active work of the association. The meeting was addressed by Mr. Van Sant, who outlined the purposes of the society. Mr. Van Sant spoke of the urgent need of harmony and arrangement in architecture in the city and the apparent demand for the establishment of approaches to the State capitol and the new cathedral, together with a complete system of boulevards throughout the city. The city beautiful and artistic was the keynote of his talk. He urged promotion in every practical way of a plan to beautify the streets and uphold artistic improvements by a higher class of architecture. Mr. Van Sant displayed pictures he had taken of structures in India during his tour in that country. He explained the need of approaches, maintaining that without such many of the world's most beautiful buildings would be mean and unimportant.

Empire State Gas and Electric Association.—The offices of the association have been removed from 154 Nassau street to 29 West Thirty-ninth street, New York, N. Y. Charles H. B. Chapin is secretary.

American Institute of Electrical Engineers.—The annual dinner of the Institute will be held at the Hotel Astor, New York, N. Y., March 11, 1909.

Massachusetts Highway Association.

—Mayors of a number of Massachusetts cities, the House and Senate Chairmen of the Committee on Roads and Bridges of the Legislature and others interested in the maintenance of public highways were the guests February 9 of the Massachusetts Highway Association at its annual meeting in the Copley Square Hotel, Boston. The chief topic of discussion was the upkeep of improved roads under the conditions brought about by heavy automobile traffic, and Colonel William D. Sohier, of the Highway Commission, was the principal speaker. In the opinion of Colonel Sohier, the only way out of the difficulty is to build better roads which will withstand the new traffic. The present roads will wear out rapidly and the expense of maintenance is very heavy. On the other hand, the speed of automobiles cannot be materially reduced or the great element of attractiveness in the use of motor vehicles will be eliminated. He suggested, however, that the owners of the automobiles be made to help in the maintenance of roads by taxes proportionate to the destructive power of their machines, and that abutters on highways that are treated with dust-laying substances be assessed a part of the expense. He said that the Highway Commission has made tests with oil, tar and salts, and has found some that give very satisfactory results. Mayor William J. Bullock, of New Bedford, endorsed Colonel Sohier's suggestion that abutters be taxed for dust-laying treatment of highways, and told of the working of such a plan in his city. Other speakers included Wilbur F. Learned, the new president; Mayor Edward A. Walker, of Waltham; Mayor Walter C. Wardwell, of Cambridge; Mayor Henry Parsons, of Marlboro; Representative Nason, of Haverhill, and Senator Hibbard, of Lowell. At the business meeting the following named officers were elected: President, Wilbur F. Learned, of Watertown; vice-president, Harold Parker, of Lancaster; secretary, Austin B. Fletcher, of Medford; treasurer, Charles A. Brown, of Wellesley; directors, Charles M. Hooper, of Peabody, and John McCarthy, of Natick. George Kimball, retiring president, was toastmaster.

Cement Users and Contractors' Association of Oklahoma.—With a membership of over 60, and outnumbering the original membership of the National Cement Association, the first annual convention of the Cement Users and Contractors closed February 10. The following officers for the permanent organization were elected: Ralph E. Brownell, Oklahoma City, president; D. C. Patterson, Oklahoma City, secretary; S. J. Wick, El Reno, treasurer. These officers were also appointed as the executive committee, and will frame the by-laws and appoint other committees. A banquet given to the association by the Oklahoma City Builders' Club in their clubrooms in the Martin Building was attended by over 100 members. One of the most interesting and instructive talks made before the convention was given by Prof. Charles N. Gould, of the State University at Norman. Professor Gould gave an exhaustive address on the subject of Portland cement material in Oklahoma and its relation to the fuel market and transportation. He spoke in place of Richard L. Humphreys, president of the National Cement Users' Association.

Engineers' Society of Pittsburg.

—The annual banquet of the Engineers' Society of Pittsburg was held in the Rittenhouse, Pittsburg, on the evening of February 20. An attractive programme was arranged, and an interesting feature of the occasion was a number of long-distance telephone greetings from the presidents of the national engineering societies, special service wires being arranged for the occasion. The regular monthly meeting of the society was held on the evening of February 16, at which a paper entitled "The Manufacture of Portland Cement" was read by W. M. Kinney, inspecting engineer connected with the Universal Portland Cement Company.

Illinois Good Roads Association.—A convention was held at the Auditorium Hotel, Chicago, on February 12. After an address by the president, Arthur C. Jackson, an address on "National Aid for Good Roads" was given by H. H. Gross, secretary of the Farmers' Good Road League. He advocated the furnishing of financial assistance by the Federal Government and the taking up of road improvement as a national policy. J. C. Barthol, secretary of the National Good Roads Congress, advocated a Lincoln memorial highway from Chicago to Springfield. Mr. Gross spoke in opposition, saying the money and work could be used to much better advantage in improving roads in agricultural districts. An address on "Existing Laws and Needed Legislation for Good Roads in Illinois" was given by Arthur N. Johnson, Associate Member American Society of Civil Engineers, State Highway Engineer. In Illinois the towns are, as a rule, far apart, and there is no interurban traffic on the roads. The traffic census shows that the traffic decreased rapidly with the distance from the towns. In a number of the Western States the work of the State is mainly advisory, to inform the local authorities as to proper methods, but leaving each community to take care of its own roads. The Illinois State Highway Commission undertakes to give advice and technical assistance in road building. It supplies broken stone when necessary, the stone being crushed, screened, etc., by convict labor at the Joliet penitentiary. This does not conflict with private interests, as it is distributed where no suitable road material is procurable locally, and where otherwise no such material would be used at all. The State also furnishes a steam roller and an engineer to direct the work of the local labor employed. Material sufficient for about 110 miles of road has been distributed to various localities, where the local authorities have made application to the State Commission. The cost of transportation of this material promised to be a problem at one time, but the Interstate Commerce Commission has decided that for hauling material for public use under the direction of public authorities the railways may make special rates and need not post them in the way required for commercial rates. It is now proposed to establish other stone crushing plants (for convict labor) at places where they would not come into competition with free labor, thus facilitating the distribution and reducing the cost and delay of transportation. Resolutions were passed in favor of petitioning the Illinois Legislature for the State aid system, approving of the present use of convict labor in preparing road material, and urging the establishment of three more quarries or distributing points.

New Jersey Association of County Engineers.—A demand for plastic binder in improved road building in order to reduce the cost of repairs and to lessen the dust and the adoption of standard plans and specifications for highway bridges were the most important matters acted upon by the State Association of County Engineers at its meeting in the State House, Trenton, N. J., February 11. In the matter of plastic binder, County Engineer Frank J. Epple, of Mercer County, read a paper, in which he said, among other things: "I take it for granted that every champion of macadam roads has reached the point where he will admit that the use of the old methods of construction, namely, the spreading of broken stones in two or more layers and adding stone screenings and gravel as a binder, which, when water is added, is to be cemented into a more or less solid mass by rolling, is a thing of the past." Mr. Epple went on to declare that in his opinion the best binder to use in the construction of macadam roads is a heavy asphaltum or liquid asphalt. This, he pointed out, would give increased wear, reduce the dust nuisance and effect a saving in the cost of repairs. These officers were re-elected: President, John J. Albertson, of Camden County; vice-president, Frank J. Epple, of Mercer County; secretary, Robert J. Meeker, State Road Supervisor; treasurer, Joshua Doughty, of Somerset County.

Montana Society of Engineers.—The twenty-second annual meeting was held at Great Falls, Mont., January 7-9. President Archer E. Wheeler delivered an address. Papers were presented by Joseph H. Harper on "Hydraulic Tables" and Theron M. Ripley on "The New York Barge Canal."

Ohio Association of Contractors.—The Association has elected the following officers: President, Oliver Riley, Cleveland; Vice-President, William H. Graham, Columbus; Trustees, J. E. Conley, Dayton; William Wildes, Akron; L. A. Fauver, Elyria; W. H. Adams, Zanesville; W. H. Luchtenburg, Columbus; E. A. Kelly, Portsmouth; Thomas Mulligan, Lima. The association will establish permanent headquarters in Columbus.

Calendar of Meetings

February 24.

Municipal Engineers of New York.—Regular meeting, Engineering Societies Building, 29 W. 39th street, New York, N. Y.—C. D. Pollock, Secretary.

March 2-4.

Northwestern Cement Products Association.—Annual convention, Minneapolis, Minn.—J. C. Van Doorn, Secretary, Security Bank Building, Minneapolis, Minn.

March 3.

American Society of Civil Engineers.—Regular meeting at Society House, 220 West Fifty-seventh street, New York.—Charles Warren Hunt, Secretary.

May 16-19.

City Marshals and Chiefs of Police of Texas.—Annual convention, Galveston.—Chief J. H. Maddox, Fort Worth, Chairman, Executive Committee.

June 1-4.

National Electric Light Association.—Thirty-second convention, Atlantic City, N. J.—W. W. Freeman, Engineering Societies Building, 29 West 39th street, New York, N. Y., Secretary.

July 6-9.

American Society of Civil Engineers.—Annual convention, Mount Washington Hotel, Bretton Woods, N. H.—Charles Warren Hunt, Secretary, 220 West 57th street, New York, N. Y.

November 9-11.

American Society of Municipal Improvements.—Annual convention, Little Rock, Ark.—A. Prescott Folwell, Secretary, 241 W. 39th St., New York, N. Y.

PERSONALS

BAKER, HENRY E., City Engineer of Watertown, N. Y., recently resigned and has sailed for Hankow, China, to superintend the construction of a paper mill.

CONLON, TOM, Superintendent of Water Works of Tucson, Ariz., has resigned on request of Mayor Ben Heney after a tilt with the latter.

CRAIG, JAS. E., Manatee, Mich., has been appointed City Engineer. He was formerly City Engineer of Palatka, Fla.

DAVIS, HENRY B., Inspector of Plumbing of the District of Columbia, has been authorized to make a trip to several large cities to investigate the most modern and up-to-date systems of plumbing in the public schools, with a view to improving the plumbing equipment in the local school buildings.

DOUGLASS, ANTHONY C., Mayor of Niagara Falls, N. Y., has gone to Hot Springs, Va., for a month, and the mayoralty duties are being discharged during his absence by Alderman Eddy E. Mansfield.

DOWDELL, HARRY, Fire Chief of Meadville, Pa., has taken up the duties of the newly-created office of Fire Marshal and is making an inspection of business houses and residences, in order to have all rubbish and combustible material cleaned up.

EARL, ROBERT, Herkimer, N. Y., has been appointed by Governor Charles E. Hughes as the Democratic member of the State Highway Commission for two years, at a salary of \$5,000, and has been confirmed by the Senate, which body refused to confirm the first appointee, Robert E. Cooke, of Denmark, on the ground that he was not a Democrat.

FERGUSON, WILLARD M., Fire Commissioner of Everett, Mass., has been removed by Mayor Charles Bruce "for the good of the service," and former Alderman Augustus S. Marshall has been appointed to the position.

FISK, C. J., Mayor of Plainfield, N. J., has appointed a committee to censor theatrical shows which visit the town, the committee consisting of Henry L. Hall, William C. Kinney, Frederick W. Butler, Howard W. Beebe and Lewis G. Timpson.

FORREST, W. H., Chief of Police of Cordele, Ga., was shot and instantly killed on the street recently by Bert Cain, a young business man.

GANNON, WILLIAM J., Assistant Street Commissioner of Arlington, Mass., has been named as Street Commissioner of Medford by Mayor Brewer to succeed Harvey A. Hainsom, who declined another term.

GETMAN, FRANK L., Assoc. M. Am. Soc. C. E., formerly Deputy State Engineer and Surveyor of New York, has recently moved to Havana, Cuba, to become Office Engineer for the Cuban Engineering & Contracting Company, which has in hand the construction of the new Havana sewer system.

GUGGENHEIM, BENJAMIN, has become President of the International Steam Pump Company, succeeding John W. Dunn, who resigned on account of ill health.

GRAHAM, MICHAEL E., Battalion Chief in the Fire Department of New York City, was mortally injured at a fire February 15, dying shortly after at a hospital. A lieutenant and fireman lost their lives, and four other firemen were severely injured by the falling of a wall.

HANES, GEORGE S., North Vancouver, B. C., has been appointed City Engineer.

LYONS, HUGH, Mayor of Lansing, Mich., for two terms and a prominent manufacturer of the city, died recently. He was a veteran of the Civil War.

O'HAVER, GEORGE T., Chief of Police of Memphis, Tenn., and for thirty-one years a member of the department, resigned re-

cently, and in a dramatic speech before the Board of Police and Fire Commissioners claimed he had been hounded out of office.

SALISBURY, DR. J. H., Chicago, Ill., has received a letter from a Russian physician asking for samples of charts and pictures on tuberculosis exhibited in Pittsburg, Pa., with a view to the introduction in St. Petersburgh of the methods of the Pittsburg Tuberculosis League in teaching the nature of the dread disease to school children, and Miss Stark, who is in charge of the work in Pittsburg, will forward the information.

SAYLES, E. W., Watertown, N. Y., has been elected City Engineer, vice Henry E. Baker resigned.

TAYLOR, HARRY C., Mayor of Versailles, Ky., who tendered his resignation to the City Council, February 2, has been induced to withdraw the same and will finish out his term, which expires in December.

WILE, W. J., Boerne, Tex., has been elected Mayor over Adolph Weyrich by five votes; Joe Saunders, Tax Assessor and Collector and City Marshal, over Charles Kobbe by 58 votes, and L. W. King, Max Meselear, Joe Dienger, Adolph Windler and L. H. Schrader, Aldermen.

WRINN, JAMES, Chief of Police of New Haven, Conn., for many years until his retirement a short time ago, passed away recently at his home as a result of heart failure.

MAGEE, WM. A., has been elected Mayor of Pittsburg, Pa., over W. H. Stevenson. Other chief executives elected by cities and boroughs of Pennsylvania, Feb. 16, were:

Scranton—John Von Bergen, Jr.
Tyrone—John H. Graizer.
Hollidaysburg—Edgar H. Jacobs.
Sharpsburg—John L. Gribben.
Braddock—John Brennan.
North Braddock—Jas. A. McWilliams.
Glen Osborne—Christopher Magee.
Sewickley—W. K. Brown.
Aspinwall—W. R. Smith.
Glenfield—F. W. Schneider.
Edgewood—Chas. Garland.
Cheswick—D. C. Jack.
Wilmerding—Christopher Horrocks.
Oakmont—G. A. Meckel.
Verona—Thos. R. McMillen.
Etna—W. H. Miller.
Ben Avon—R. L. Thompson.
Brackenridge—Wm. Dew.
M'Kees Rock—Jos. E. Steele.
Edgeworth—Thos. Patterson.
Oakdale—J. B. Riffley.
Wall—T. H. Kennedy.
Mount Oliver—J. R. Augustine.
Ingram—A. F. Ohl.
Clifton Heights—N. S. Keay.
Norwood—J. H. Duffee.
Darby—R. J. Dawson.
Morton—G. W. Alexander.
Alden—S. M. Simons.
Glenolden—W. H. Harrison, Jr.
Lansdowne—B. W. Carskaddon.
Yeadon—Joel B. Davis.
Punxsutawney—T. O. Freas.
Irwin—W. L. Crebbs.
Beaver—T. W. Beaver.
Beaver Falls—A. L. Brown.
West Newton—J. F. Hamilton.
Kittanning—Harry P. Boarts.
Waynesburg—J. H. Zimmerman.
Butler—G. W. Amy.
Canonsburg—W. H. Dunlap.
Connellsville—North Evans.
Marcus Hook—H. A. Lewis.
Media—H. P. Engle.
Hummelstown—Geo. A. Zeller.
Camp Hill—W. Albright.
New Cumberland—Lester Rigling.
North Hampton Heights—Chas. Lynn.
Fountain Hill—Allen J. Earich.
South Bethlehem—J. H. McGee.
Bethlehem—W. E. Martin.
Plymouth—W. D. Morris.
Nanticoke—James Cooney.
Miners Mills—Mr. Barrett.
Parsons—Mr. Hart.
West Pittston—W. B. Richards.
Hughestown—Jacob Schmaltz.
Duryea—Joseph Freeman.
Exeter—John O'Mara.
Avoca—James McLaughlin.
Luzerne—John McNeils.
Ashley—J. K. P. Fenner.
Kingston—W. M. VanHorn.
Edwardsville—T. B. Hatten.
Courtland—Thomas J. Williams.
Dorranceton—D. Davis.
Sugar Notch—P. O'Donnell.
Warrior Run—Thomas M. Thomas.

THE WEEK'S CONTRACT NEWS

Relating to Municipal and Public Work—Street Improvements—Paving, Road Making, Cleaning and Sprinkling—Sewerage Water Supply and Public Lighting—Fire Equipment and Supplies—Bridges and Street Railways—Sanitation Garbage and Waste Disposal—Police, Parks and Miscellaneous—Proposals and Awards

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we can not guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also corrections of any errors discovered.

BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
STREET IMPROVEMENTS				
Michigan	Detroit	Feb. 25	Furn. f.o.b. Detroit 1,500 tons asphalt, 500 tons oil or petroleum.	J. J. Haarer, Com'r Pub. Wks.
Pennsylvania	St. Clair	Feb. 25, 8 p.m.	Grading, paving and curbing Spring St., Arl. Ave. to Wms. St.	William Fromm, Borough Clerk.
Ohio	Youngstown	Feb. 25, noon	Grading Bellevue Ave.	W. H. McMillin, Clk. Bd. Pub. Serv.
Georgia	Savannah	Feb. 25, noon	Furn. 6,000 cu. yds. cement gravel or like material.	G. Reuben Butler, County Clerk.
Wisconsin	Waukesha	Feb. 26, 2 p.m.	St. imp. work to cost \$40,000, inc. 10,000 cu. yds. excavation; 18,000 lin. ft. combination curb and gutter; 26,000 sq. yds. macadam with tar surface.	
Ohio	Newtown	Feb. 27, noon	Grading and constructing curb and gutters on Main St.	John P. Dey, Chm. Bd. Pub. Wks.
Maryland	Cumberland	Mar. 1, noon	Grading and paving North Lee St.	Edgar M. Griffith, Village Clerk.
New Jersey	Jersey City	Mar. 1, 2 p.m.	Improving Hague St., inc. 2,242 sq. yds. Belgian paving, 982 cu. yds. earth and 20 yds. rock excav., 565 cu. yds. sand filling, set and reset curb, etc.	L. Schaidt, City Engineer.
Missouri	Webb City	Mar. 1, 5 p.m.	Grading and graveling; bldg. combined cement curb and gutter, vit. brick sidewalks on Roane St.; estimate, \$2,078.	Geo. T. Bouton, Clk. St. & Water Bd.
New Jersey	Plainfield	Mar. 1	Furn. 100 tons screenings, 500 tons ½-in., 4,000 tons 1 ½-in., 200 tons 2 ½-in. stone; also mat. for crosswalks and culverts.	A. J. McKenzie, City Engineer.
Indiana	Decatur	Mar. 1, 10 a.m.	Bldg. 3 macadam roads, two in Monroe, one in Hartford twp.	Jas. T. McMurray, City Clerk.
Indiana	Greenfield	Mar. 1, 10 a.m.	Bldg. and improving 2 highways in Vernon township.	H. S. Michaud, County Auditor.
Indiana	Columbus	Mar. 1, 10 a.m.	Bldg. 5,177 ft. macadam; also 2 miles, 2 twps.	Chas. H. Frey, County Auditor.
Indiana	Danville	Mar. 1	Bldg. 3 gravel roads, 14,572, 12,983 and 15,236 ft. long.	John M. Davis, County Auditor.
Indiana	Vevey	Mar. 1, 1 p.m.	Constructing 3-mile road in York township.	William H. Nichols, County Auditor.
Indiana	Liberty	Mar. 1, 2 p.m.	Constructing gravel road in Union township.	Scott Culbertson, County Aud.
Virginia	Portsmouth	Mar. 1, noon	Bldg. macadam road from Norfolk to Great Bridge.	Clinton Gardner, County Auditor.
Mississippi	Oxford	Mar. 1, 7 p.m.	Constructing 144,400 sq. ft. concrete and 7,460 sq. yds. macadam	Alvah H. Martin, Chm. Rd. Imp. Com.
North Carolina	Mooresville	Mar. 1	Constructing 4 miles of macadam road; C. M. Mills, Engineer.	R. S. Adams, Mayor.
Ohio	Canton	Mar. 1	Brick paving on gravel, 10,995 sq. yds.	N. B. Mills, Chm. Co. Com., Statesv'le, Board of Public Service.
Indiana	Tipton	Mar. 1, 10 a.m.	Bldg. 3 gravel roads, one 8,293 ft. and one 1 ¼ miles long.	J. F. Barlow, County Auditor.
Indiana	Crown Point	Mar. 1, noon	Constructing gravel road in Calumet township.	Charles A. Johnson, County Auditor.
Indiana	Lafayette	Mar. 1, 11 a.m.	Constructing Wilson gravel road in Lauream twp.	John P. Foresman, Co. Auditor.
Indiana	Vernon	Mar. 1, 10 a.m.	Constructing ½ mile of pike road in Spencer twp.	T. L. Thomas, County Auditor.
Indiana	Greenfield	Mar. 1, 10 a.m.	Constructing 2 macadamized roads in Buck Creek twp.	Charles H. Troy, County Auditor.
California	Sacramento	Mar. 1, 2 p.m.	Bldg. macadam road, asphaltic oil, concrete culverts, etc.	Wm. B. Hamilton, Clk. Co. Superv.
Manitoba	Winnipeg	Mar. 1, 11 a.m.	Furnishing 10-ton macadam roller for Street Com'r.	M. Peterson, Sec'y Bd. Control.
Washington	Olympia	Mar. 1	Paving 5 streets; first bids rejected.	Millard Lemon, City Engineer.
North Carolina	Newbern	Mar. 1, 8 p.m.	Paving 25,000 sq. yds., brick or granite, or both.	C. J. McCarthy, Chm. St. Com.
Indiana	Liberty	Mar. 2, 2 p.m.	Constructing 3 miles gravel road in Union township.	Clinton Gardner, County Auditor.
Indiana	Washington	Mar. 2, 2 p.m.	Constructing 4 gravel roads in Washington township.	Thomas Nugent, County Auditor.
Kentucky	Louisville	Mar. 2	Constructing 33 blocks asphalt sts., inc. 23,000 cu. yds. excav., 14,000 ft. curb, 55,800 sq. yds. asphalt; cost, \$158,100.	Chief Engineer, Bd. Pub. Wks.
Indiana	Monticello	Mar. 2, noon	Bldg. Redding, Nagle and Sluth gravel roads in Prairie twp.	J. L. Ackerman, County Auditor.
Indiana	Crawfordsville	Mar. 2, 10 a.m.	Constructing two roads in Clark township.	Bennett B. Engle, County Auditor.
Indiana	Spencer	Mar. 2, noon	Bldg. 3 pike roads: 11,390, 10,547 and 15,800 ft. long.	Geo. W. Edwards, County Auditor.
Indiana	Bloomfield	Mar. 2, 2 p.m.	Bldg. 2 gravel and macadamized roads, Wright and Stockton townships.	Peter M. Cook, County Auditor.
Indiana	Vincennes	Mar. 2, 2 p.m.	Bldg. 3 gravel roads: 7,605, 5,310 and 6,010 ft. long.	John T. Scott, County Auditor.
Indiana	Covington	Mar. 2, 1:30 p.m.	Constructing gravel road in Wabash township.	W. B. Gray, County Auditor.
Indiana	Brownstown	Mar. 2, 1 p.m.	Constructing gravel road in Vernon township.	H. W. Wacker, County Auditor.
Indiana	Sullivan	Mar. 2, noon	Bldg. 5 roads in Curry and one in Gill township.	B. C. Crowder, County Auditor.
Indiana	Wabash	Mar. 2, 1:30 p.m.	Improving County road.	J. P. Nofziger, County Auditor.
Indiana	Washington	Mar. 2, 2 p.m.	Constructing 4 gravel roads.	Thos. Nugent, County Auditor.
New York	Brooklyn	Mar. 3, 11 a.m.	Asphalt repaving on concrete, cement sidewalks, grading, etc.	Bird S. Cole, Boro. President.
New York	Buffalo	Mar. 3	Paving and repaving portions several sts., separate bids.	F. G. Ward, Com'r Pub. Wks.
Indiana	Muncie	Mar. 3, 10 a.m.	Constructing gravel road in Delaware township.	Joseph E. Davis, County Auditor.
New York	Corning	Mar. 4, 7:30 p.m.	Brick paving, 3,000 sq. yds.; macadam, 4,300 yds.; cement curb.	R. H. Canfield, Supt. Pub. Wks.
Indiana	Wabash	Mar. 4, 10 a.m.	Constructing County line gravel road, inc. graveling, etc.	J. P. Nofziger, County Auditor.
Indiana	New Castle	Mar. 5, 10 a.m.	Constructing gravel road in Fall Creek township.	William L. Risk, County Auditor.
Indiana	Williamsport	Mar. 6, 1 p.m.	Bldg. gravel road in Adams and one in Warren twp.	Geo. W. Edwards, County Auditor.
Ohio	Cleveland	Mar. 6, 11 a.m.	Grading, draining and improving Wooster road, Rock River vil.	A. B. Lea, County Surveyor.
New York	Buffalo	Mar. 8, 12:30 p.m.	Brick or asphalt paving on concrete or macadam or dressed block stone, all connections, etc., Richmond Ave.	George H. Selkirk, Sec'y P'k Comrs.
Ohio	Columbus	Mar. 9, noon	Macadamizing, Gahanna Cem., Imp., Mifflin Twp.	F. M. Sayre, County Auditor.
Ohio	Cleveland	Mar. 10, 11 a.m.	Grading, draining and improving Settlement road.	Wm. F. Black, Clk. Co. Comrs.
Virginia	Nat'l Sol. Home	Mar. 12	Labor and material for 3,465 sq. yds. concrete sidewalks.	John T. Hume, Treas. Sold. Home.
Ohio	Cleveland	Mar. 13, 11 a.m.	Grading, draining and improving Lake Shore boulevard.	A. B. Lea, County Surveyor.
Iowa	Iowa City	Mar. 15	Doing all or any portion of township road work.	Harry Weider, Clk. Graham Twp.
Oklahoma	Paulo Valley	Mar. 15	Brick paving, 17,986 sq. yds., furn. material, etc.	L. C. Hunter, City Engineer.
Ohio	Cleveland	Mar. 20, 11 a.m.	Grading, draining and improving Northfield road.	A. B. Lea, County Surveyor.
Louisiana	Harrisonburg	Apr. 5, noon	Building 4 ½ miles of road near Trinity.	J. A. Guss, Jonesville.
WATER SUPPLY				
New Jersey	Newark	Feb. 25, 3:15 p.m.	For coated c. i. pipe and specials, inc. 755 tons 6 and 8-in., 779 tons 10 to 16-in., 405 tons 20 to 24-in., 125,000 lbs. specials, all f.o.b. Cars Newark.	F. R. Sherrerd, Ch. Eng. St. & Wt. Bd.
Ohio	Cleveland	Feb. 25	Furn. all valves for c. i. water pipe bet. 3 and 30-in., in 1909.	E. H. McIntosh, Sec'y Bd. Pub. Serv.
Illinois	Chicago	Feb. 25, 11 a.m.	Cleaning Lawrence Av. conduit from pump sta. to shaft.	John J. Hanberg, Comr. Pub. Wks.
Minnesota	Jackson	Feb. 26, 3 p.m.	Extending water mains; 16,000 gal. tank and steel tower; \$12,000.	J. G. Robertson, City Clerk.
Utah	Salt Lake City	Feb. 26	Bldg. No. Temple St. aqueduct from 4th W. St. to river.	Louis C. Kelsey, City Engineer.
Minnesota	Internat'l Falls	Feb. 27, 8 p.m.	Bldg. \$22,000 water works; Wm. C. Fraser, Rochester, Engr.	T. B. Green, Village Recorder.
South Carolina	Spartanburg	Mar. 1, noon	Laying 2 miles main, installing 2,000,000-gal. pump, erecting \$2,000 brick building, \$18,000 available.	W. B. Howe, C. E., 169 Morgan Sq.
Illinois	Oak Park P. O.	Mar. 1, 5 p.m.	Furn. and install 2,000,000-gal. comp. duplex pres. pump.	A. C. Roos, Vil. Clk., Forest Park.
Virginia	Urbanna	Mar. 1	Constructing water works; tank on hill, 60 ft. above well, ram and 4-in. pipe to be installed.	John D. Gressit.
Saskatchewan	Saskatoon	Mar. 1, 8 p.m.	Material for water works and sewage works, inc. c. i. pipe and specials, 280 tons; fire hydrants, valves, etc.; pumping mach.	J. H. Truesdale, City Clerk.
Iowa	Anamosa	Mar. 1	Improving w. w. inc. reservoir meters, mains, etc.	City Clerk.
Wisconsin	Milwaukee	Mar. 1, 10:30 a.m.	Furn. material and laying 36-in. c. i. water main across Milwaukee River from Bradford Ave. to Wright St., West Side.	C. J. Poetsch, Pres. Bd. Pub. Wks.
Illinois	Rock Island	Mar. 1, 5 p.m.	Bldg. complete mechanical filtration plant for city.	M. T. Rudgren, City Clerk.
Illinois	Summit	Mar. 1, 8 p.m.	Furn. mechanical equipment for pumping water from well, 1,545 ft. deep, bore, 10 to 5-in., to tank, 125 ft. high.	James Johnstone, Village Clerk.
British Columbia	Vancouver	Mar. 1, 4 p.m.	Clearing and excavating for Little Mountain reservoir, inc. 80,000 cu. yds. excav., dirt, rock, etc.	Engr. Burwell, care Civic Water Com.
Kansas	Norton	Mar. 2, 7:30 p.m.	Furn. 4,12 ft. 12-in., 6000 ft. 6-in., 900 ft. 4-in. c. i. pipe, 14,000 lbs. specials, gates, hydrants, etc.	W. R. Tasker, Water Supt.

BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
WATER SUPPLY—Continued.				
Montana	Ft. Assiniboine	Mar. 4, 11 a.m.	Bldg. 150,000-gal. steel water tank and trestle.	J. E. Sawyer, U. S. A., St. Paul, Minn.
Wisconsin	Waukesha	Mar. 4, 2:30 p.m.	Furn. 18,000 ft. c. i. pipe, castings, valves, hydrants, etc.	E. Merten, Pres. Bd. Water Com'rs.
Wisconsin	East Milwaukee	Mar. 6, 8 p.m.	Laying 3,514 ft. 6-in. water main.	Oscar A. Reuther, Village Clk.
New York	White Plains	Mar. 8, noon	Furnish and install mechanical pressure filtration plant.	John N. Heneey, Supt. of Water.
Oklahoma	Shattuck	Mar. 8	All material, inc. equipment for constructing water works.	O'Neil Engineering Co., Dallas, Tex.
New York	New York	Mar. 9, 11 a.m.	Bldg. portion Catskill Aqueduct, inc. 1 mile of tunnel on hydraulic gradient, 17x13 1-3 ft., lined with concrete and 2 short stretches of plain concrete conduit, known as cut-and-cover aqueduct, at ends of tunnel, 1/2 m. long, 17x17 1/2 ft. in Phillips town.	
Mexico	City of Mexico	Mar. 10	Furn. 12,000 tons, 4 to 30-in. c. i. pipe; some 36 to 48-in.	J. Waldo Smith, Ch. Eng. Bd. Wtr. Sup.
Ohio	Toledo	Mar. 11, noon	Bldg. c. i. pipe conduit, concrete culvert and gate chamber.	The Mayor.
Pennsylvania	Lebanon	Mar. 11, 5 p.m.	Enlarging dam No. 2 of gravity water supply system, inc. 33,000 cu. yds. earth in dam breast, concrete intake tower 50 ft. high.	Reynold Voit, Sec'y Bd. Pub. Serv.
Massachusetts	Boston	Mar. 11, 10 a.m.	Bldg. meter chambers and install. meters, Ft. Warren and Gallops Island.	T. R. Crowell, City Engineer.
New York	New York	Mar. 11, 11 a.m.	Bldg. portion of Catskill Aqueduct, inc. 5,450 ft. plain concrete, cut-and-cover, 17x17 1/2 ft., and 2 tunnels, 17x13 1-3 ft. on hydraulic gradient, having combined length of 6,450 ft., in Yorktown.	Capt. R. H. Rolfe, 263 Summer St.
Missouri	Kansas City	Mar. 11	Pumping engine, 15,000,000-gal. at Turkey Creek pumping station; also 25,000,000-gal. engine at Quindaro.	Board of Water Supply.
Pennsylvania	Philadelphia	Mar. 15	Bldg. new filtration plant at Queen Lane Pumping Station for supplementary supply inc. 26 final filters and 54 preliminary filters, capacity 60,000,000 gals. per day; cost, \$2,500,000.	Bd. Fire and Water Com'rs.
Oklahoma	Muskogee	Mar. 15, 5 p.m.	Furn. 4,000,000-gal. high and 5,000,000-gal. low service pump and 250 h.p. tubular boiler; L. B. Kirsey, Engineer.	Dept. of Public Works.
Kansas	Wichita	Mar. 15, 7:30 p.m.	Constructing system of water works; est. cost, \$860,000; cert. check, \$10,000; plans, \$25; Hiram Phillips, St. L., Mo., Engr.	Morgan Caraway, City Clerk.
Alabama	Montgomery	Mar. 15	Two 200 h.p. water-tube return tubular or Scotch marine boilers work. pres. 160 lbs., also two 250 h.p. boilers, reinforcing foundation, removing boilers, bricking in, etc.	R. N. Dorr, City Clerk.
Maryland	Berlin	Mar. 16, 11 a.m.	Bldg. water works and electric light system.	Robert Tait, City Treasurer.
Massachusetts	Boston	Mar. 19, 10 a.m.	Extensions to water and sewer systems at Fort Andrews.	Dodge & Day, Engrs., Washington, Bldg., Philadelphia, Pa.
Montana	Stevensville	Mar. 25, 5 p.m.	Bldg. w. w. system, inc. 10,600 ft. 6-in., 10,650 ft. 4-in., 11,700 ft. 8-in. wire wound wooden pipe, 23 hydrants, small reservoir, and other appurtenances; check, \$1,000; J. H. Kyd, C. E., Butte	Capt. R. H. Rolfe, 263 Summer St.
California	Petaluma	May 5, 7 p.m.	Furn. and install. pump. mach. for salt-water high-pressure system	George T. Baggs, Town Clerk.
SEWERAGE				
Ohio	Youngstown	Feb. 25, noon	Labor and material for sewerage Una St.	Wm. H. McMillin, Clk. Bd. Pub. Ser.
Kentucky	Louisville	Feb. 26, noon	Bldg. Twelfth St. sewer Contract No. 25; 3,900 ft. long, 16 to 27 ft. deep, inc. 3,350 cu. yds. concrete and 320,000 lbs. steel.	J. B. F. Breed, Ch. Eng'r Sew. Com.
Ohio	Newtown	Feb. 27, noon	Bldg. drain from South Side Main St. to Clear Creek.	Edgar W. Griffith, Village Clerk.
Connecticut	New London	Mar. 1, noon	Bldg. and laying submerged wooden outfall sewer and settling basin, and laying tile pipe connections.	W. H. Richards, Eng. W. & S. Comrs.
Saskatchewan	Saskatoon	Mar. 1	Furn. 20,000 ft. sewer pipe, etc., for sewage works.	Willis Chipman, C. E., Toronto, Ont.
New York	Newburgh	Mar. 1, 5 p.m.	Bldg. cement pipe sewer in Robinson Ave. with laterals, etc.	D. J. Coutant, City Clerk.
New Jersey	Asbury Park	Mar. 1, 8 p.m.	Construction and equipment of sewage disposal works.	City Wastes Disposal Co., 156 Fifth Ave., N. Y. City, Engineers.
Kansas	Marion	Mar. 1, 7:30 p.m.	Plans, estimates, etc., for septic sewage disposal tank.	Thos. W. Bowen, City Clerk.
Missouri	St. Louis	Mar. 2, noon	Bldg. brick and pipe sewers; estimated cost, \$210,000.	A. J. O'Reilly, Pres. Bd. Pub. Wks.
New Jersey	Avalon	Mar. 5, 8 p.m.	Bldg. 7,400 ft. t. c. pipe up to 12-in., 10 manholes, 6 flush boxes.	R. L. Goff, C. E., Ocean City.
Kentucky	Louisville	Mar. 5, noon	Bldg. Sec. B, Castlewood sewer; Cont. No. 26, inc. 2,770 ft. 36 to 42-in. concrete sewer, 9 to 18 ft. deep; 675 cu. yds. concrete	H. P. Eddy, Boston, Mass., C. E.
Iowa	Grundy Center	Mar. 8	Constructing 8 and 10-in. san. sewer; cost, \$15,000 to \$18,000.	E. A. Crary, Chm. Sewer Com.
Massachusetts	Boston	Mar. 19, 10 a.m.	Bldg. sewer system, Ft. Banks; extend system, Ft. Andrews.	Capt. R. H. Rolfe, 263 Summer St.
Nebraska	Wayne	Mar. 22, 8 p.m.	Constructing sanitary sewer system.	Martin Ringer, City Clerk.
BRIDGES				
South Carolina	Greenville	Feb. 25	Bldg. wooden bridge over Enoree River.	J. P. Goodwin, Supervisor.
Virginia	Amherst	Feb. 25	Bldg. concrete pier and abutment for bridge, Elon dist.	F. B. Tyler & C. B. Scott, Committee.
Kansas	Westmoreland	Feb. 25, 2 p.m.	Bldg. 300-ft. steel approach to Stockdale bridge at Blue river.	H. G. Huckstadt, County Clerk.
Virginia	Richmond	Feb. 27	Bldg. steel bridge, Powhatan Co., also one bet. Caro and Hanover counties.	
Nebraska	Columbus	Mar. 1	Furn. mat. and bldg. all bridges during 1909, begin April 1.	P. St. J. Wilson, Hwy. Comr., R'md.
Indiana	Brookville	Mar. 1	Constructing 3 arches and approaches to 5 bridges.	John Graf, County Clerk.
Ohio	Toledo	Mar. 1	Bldg. sub and superstructure, Central Ave. bridge.	Chas. A. Miller, County Auditor.
Mississippi	Magnolia	Mar. 1	Bldg. 2 steel bridges, one over Magee's Creek at Tylertown, 255 ft. long, 1 steel span 75 ft., rest of wood, 60 ft. on one side and 120 on other; one at Dillon, 292 ft. long, 3 spans, one 90 ft., two 40 ft., wood approaches.	H. F. Van Fleet, Chm. Co. Comrs.
Montana	Powderville	Mar. 1	Constructing bridge over Powder River for County.	W. C. Vaught, Clk. Co. Supervisors.
Michigan	Lansing	Mar. 1	Bldg. bridge over Cedar river 140 ft. clear span, 30-ft. roadway, with two 6-ft. walls.	County Clerk, Miles City.
Indiana	Shoals	Mar. 1, 1 p.m.	Constructing fill at Furs Creek bridge, McCameron twp.	H. A. Collar, City Engineer.
South Dakota	Faulkton	Mar. 2, 2 p.m.	Bldg. 2 steel bridges over Nixon river, 70 and 100 ft. long resp.	John T. Morris, County Auditor.
North Dakota	Grafton	Mar. 2, 2 p.m.	Erecting all pile and steel bridges and repairing all in 1909.	W. H. Race, County Auditor.
Illinois	East St. Louis	Mar. 2, 3 p.m.	Bldg. 2 bridges over drainage canal.	Q. M. Fraser, County Auditor.
Pennsylvania	Wilkes-Barre	Mar. 2, 2 p.m.	Furnishing 55,860 ft. bridge lumber, various sizes.	F. B. Harding, Chm. Drainage Com.
Ohio	Cleveland	Mar. 3, 11 a.m.	Bldg. bridge approach, Independence twp., per Report 2210.	James M. Morris, County Auditor.
Arkansas	Paris	Mar. 4	Constructing 6 bridges for County.	A. B. Lea, County Surveyor.
Ohio	Cleveland	Mar. 6, 11 a.m.	Constructing 6 bridges for County.	Fred N. Cater, County Clerk.
Ohio	Zanesville	Mar. 8, noon	Bldg. sub and steel super., Mastick road, over Rocky river.	A. B. Lea, County Surveyor.
New Jersey	Woodstown	Mar. 8, 1:30 p.m.	Bldg. 85-ft. span, 14-ft. roadway, over Creek in Meigs twp.	L. E. Brelsford, County Auditor.
Ohio	Columbus	Mar. 9, noon	Steel superstructure of bridge over Salem Creek.	L. S. Prickett, French's Hotel.
Florida	Pensacola	Mar. 10	Bldg. sub. and superstructures, floors, etc., of bridges.	F. M. Sayre, County Auditor.
Ohio	Cleveland	Mar. 13, 11 a.m.	Bldg. wooden trestle 400 ft. long for Pensacola Invest. Co.	Investment Co., 225 Brent Bldg.
Louisiana	Harrisonburg	Apr. 5, noon	Bldg. concrete bridge, concrete arch and concrete culvert.	A. B. Lea, County Surveyor.
			Bldg. steel bridge at Bushley Bayou; also repairing one.	H. W. Bethard, Clk. Police Jury.
LIGHTING AND ELECTRICITY				
Iowa	Des Moines	Mar. 1, noon	Bldg. electric light and power plant for Co. Court House and Jail.	Proudfoot & Bird, Flynn Bldg., Archts.
Alberta	Lethbridge	Mar. 1	Bldg. mun. power plant, inc. boilers, etc., economizer, feed pumps, mechanical draft pipe work and valves, steam turbine generator; re-erecting engines; condensing sets, crane, switchboards, etc.; motor generators and transformers; bldg. steel work, etc.; Smith, Kerr & Chace, Toronto, Engrs.	
Manitoba	Winnipeg	Mar. 2, 11 a.m.	Insulators, telephone line, erecting transmission line, repair shop equipment for hydro-electric development.	GEO. W. ROBINSON, Sec'y-Treas.
Ohio	Cleveland	Mar. 3	Furn. and install 2 horiz. tub. boilers, 15 ft. by 66 in., with stoker	M. Peterson, Sec'y Bd. Control.
California	Patton	Mar. 5, 8 p.m.	Furn. energy for lights and power for State Hospital for 2 years from April 15.	E. H. McINTOSH, Clk. Bd. Pub. Serv.
Wisconsin	Milwaukee	Mar. 5, noon	Lighting with naphtha or other illuminants, parks and parkways for 3 or 5 years.	DR. E. SCOTT BLAIR, Supt. State Hosp.
Indiana	Indianapolis	Mar. 8	Electric lighting, heating, etc., for new \$600,000 City Hall.	DANIEL ERDMANN, Chm. Park Bd.
South Carolina	Sumter	Mar. 9, noon	Furn. 50 enclosed incan. arc lights, 6.6 amperes, 2,000 nom. c. p., all within one mile radius; also 50 to 80 add'l lights; 10-year contract from Nov. 1.	GEORGE M. BRILL, C. E., care of Bd. Pub. W.
				C. M. HURST, City Clerk

BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
LIGHTING AND ELECTRICITY—Continued				
Florida	Jacksonville	Mar. 15	Bldg. \$3,000,000 power plant for Suwanee River Elec. Pow. Co.	D. G. Ziegler & Co., Engrs.
Maryland	Berlin	Mar. 16, 11 a.m.	Bldg. electric light plant and water works system.	Orlando Harrison, Mayor.
Pennsylvania	Lansdowne	Mar. 20	Lighting streets for terms of 5 and 10 years.	John W. Davis, Sec'y Boro. Council.
Dist. of Columbia	Washington	Mar. 22	Furnishing electrical supplies, etc., for Bur. Eng. & Printing.	Joseph E. Ralph, Dir. B. E. & P.
MISCELLANEOUS				
New York	New York	Feb. 25, 3 p.m.	Furn. 100 bbls. each of No. 1 and No. 2, 1909 Portland Cement.	Henry Smith, Pres. Park Bd.
California	San Francisco	Feb. 25, 9:15 a.m.	Furn. mat. and bldg. pier No. 34, inc. piles, cement, reinforcing material, castings, steel I-beams, plates, angles, bolts, rivets, spikes, steel rails, crushed rock, etc.	
Minnesota	Fort Snelling	Feb. 26, 11 a.m.	Constructing an ice house.	W. B. Thorpe, Sec'y Harbor Com.
Ohio	Northfield	Feb. 27, noon	Bldg. Town Hall; new bids.	Capt. R. C. Croxton, Q. M., U. S. A.
Nebraska	Omaha	Mar. 1, noon	Bldg. Court House for Douglas Co.; John Latenser, Archt.	J. F. J. Richay, Pres. Twp. Trus.
California	Sacramento	Mar. 1	Bldg. additional garbage incinerating unit; also building.	D. M. Haverly, County Clerk.
New York	Newburgh	Mar. 1	Bldg. contagious disease hospital, 76x60 ft., 1 story, water and fire-proof; heated by King vent system; rein. concrete walls.	M. J. Desmond, City Clerk.
Ohio	Columbus	Mar. 1	Furn. f. o. b. cars Columbus: 16 bottom chain dump wagons, 4 yds. cap.; 4 of 3 yds. cap.; steel-lined or of water-tight construction; also 2 street sweepers and extra rolls.	Frank E. Estabrook, 75 2nd St., Arch.
Florida	Jacksonville	Mar. 2	Bldg. complete garbage and refuse disposal plant of 40 tons capacity; also plant of 50 tons capacity.	E. W. Hirsch, Sec'y Bd. Pub. Serv.
New York	New York	Mar. 2, 10:30 a.m.	Furn. 1 first, 2 second-size steam fire engines, 8 first-size hose wagons, two 75-ft. and two 65-ft. aerial hook and ladder trucks, for Manhattan Boro; 2 third-size steam engines and two 65-ft. trucks for Bronx; 10 first-size hose wagons, 2 third-size engines, two 65-ft. trucks for Brooklyn; 2 third-size engines, one 75-ft. truck for Queens Boro.	N. C. Wamboldt, Chm. Bd. Pub. Wks.
New York	Buffalo	Mar. 5, 11 a.m.	Bldg. Subd. A, Sec. No. 2, Buffalo riv. & Cazenovia Cr'k Imp.	Nicholas J. Hayes, Fire Com'r.
Indiana	Indianapolis	Mar. 8	Erecting City Hall; also plumbing, heating and lighting; cost, \$600,000; Rubush & Hunter, Archts.	F. G. Ward, Com'r Pub. Wks.
Ohio	Sandusky	Mar. 15	Collection of garbage and offal, dead animals, etc.	Charles M. Bookwalter, Mayor.
Wisconsin	Milwaukee	Mar. 31, 10:30 a.m.	Bldg. refuse incineration plant, complete, except superstructure of bldg. and chimney, as stated in Feb. 10 issue.	John J. Molter, Pres. Bd. Health.
Uruguay, S. A.	La Paloma	Apr. 2	Construction of harbor.	Chas. J. Poetsch, Chm. Bd. Pub. Wks.
New York	New York	Apr. 15	Furn. petrol motor fire wagon for Shanghai, China.	Dept. of Pub. Wks., Montevideo.
Illinois	Chicago	Sept. 15	Furn. voting machines up to \$100,000 value.	Pearson, Daniel & Co., 96 Wall St. Election Commissioners.

STREET IMPROVEMENTS

Chico, Cal.—City Trustees are considering the calling of an election on \$100,000 bonds; included in this are \$35,000 for paving twenty business blocks with asphalt and \$25,000 for paving the major portion of the residence section with petrolithic pavements.

Sacramento, Cal.—The Board of Supervisors has adopted the plans and specifications drawn by County Surveyor Phinney for grading, macadamizing and oiling the Auburn road; plans and specifications have been approved by the Citizens' Advisory Committee; County Surveyor Phinney estimates that the work will cost about \$95,000.

San Jose, Cal.—City Engineer Pieper has submitted an estimate of probable average cost of contemplated street improvements, as instructed by the Council as follows: Santa Clara street from Orchard to the westerly city limits, bitumen pavement, per front foot, from \$6 to \$6.82; concrete curb and gutter, 80 cents; Santa Clara street from Fourth street to the Coyote River, bitumen pavement, from \$6.44 to \$7.16; curb and gutters, 80 cents; First street from Hobson to Taylor, bitumen pavement, from \$6.56 to \$7.30; curbs and gutter, 80 cents; thirty days' notice was ordered given to property owners to make improvements as follows: On Hobson street from First to the Guadalupe River, artificial stone sidewalks; on Third street from Martha and Keyes, artificial stone sidewalks; on San Fernando street, concrete curbs and gutters; on Post street, concrete curbs and gutters; on Twelfth street, artificial stone sidewalks.

South Pasadena, Cal.—Actual work will be commenced within a few weeks on the improvement of Mission street from Fair Oaks to Pasadena avenue; improvement will consist of paving the street which is the principal business thoroughfare of the city; Committee has decided that asphalt concrete will be the most satisfactory and they recommend that such a pavement be used.

Bridgeport, Conn.—Council is considering the laying of a new hard surface pavement on Main street from East Washington avenue to Gilbert street.

Hartford, Conn.—Highway Commissioner MacDonald will ask for an appropriation of \$50,000 to use in protecting all State highways, and a portion of this money will be spent in treating the surface of the roads with a creosote substance, which will prevent destruction of the highway and also prevent dust.

New Britain, Conn.—There is a likelihood that streets in the center of the city will be permanently paved next summer; Board of Public Works recommended the appropriation of \$15,000 last spring, but the Board of Finance and Taxation could not find the necessary money after providing for the necessities of other departments;

this year the Board will probably renew this recommendation and probably increase the amount to take in more of the center of the city; the \$15,000 asked for last year, with the sum which the trolley company would pay and also what the property owners would pay, would permanently pave Main street from the railroad crossing to Franklin square and a portion of Main street.

New Haven, Conn.—The Permanent Paving Commission has recommended the paving of Howard and Grand avenues; also Commerce, State and College streets.—Max Adler, President.

Waterbury, Conn.—City is preparing for some extensive street paving work this summer; City Engineer Cairns has submitted estimates on paving various sections of the city with bitulithic, brick, asphalt or wood, at the same time touching upon the water main and fire service along Exchange place and South Main street, which was condemned by the City Engineer as inefficient. Estimate of expense paving of West Main from Meadow street to Naugatuck River: bitulithic, \$25,800; brick, \$26,700; asphalt, \$27,000; wood, \$32,850. Estimate of expense for paving East Main street from the end of the present pavement at School street to Cherry street: Bitulithic, \$8,400; brick, \$8,700; asphalt, \$9,000; wood, \$10,750. Estimate paving Grand street from Field to Meadow street: Bitulithic, \$20,850; brick, \$21,550; asphalt, \$22,250; wood, \$26,550. Estimate paving Meadow street from West Main street to the end of the present pavement: Bitulithic, \$27,500; brick, \$28,500; asphalt, \$29,450; wood, \$40,100.

Jacksonville, Fla.—Commissioner Aird has offered a resolution, which has been adopted, declaring the necessity of paving streets and parts of streets as follows: Myrtle avenue, Adams street to Kings road, Phelps street, Clay street, Ward street, Florida avenue, Beaver, Osceola street, Laura street, Union street, May street, Walnut street, Cedar street.

Jacksonville, Fla.—Duval County Board of Commissioners has decided to ask for bids for paving with vitrified brick the new road from South Jacksonville to the beach.

Manatee, Fla.—Election on \$15,000 bonds has been postponed to May.

Brunswick, Ga.—Glynn County Grand Jury has recommended a \$50,000 bond issue for road improvements.

Pocatello, Ida.—City is considering the laying of sidewalks in sidewalk district No. 3.—T. D. Gilmore, City Clerk.

Aurora, Ill.—City will pave South Broadway this year.

East St. Louis, Ill.—The Board of Local Improvements has had plans prepared for brick paving, on concrete foundation, in the following streets: Market street, Fourteenth street, Eleventh street, Illinois avenue and Louisiana boulevard.—Wm. J. Crocken, City Engineer.

Freeport, Ill.—Council has passed an ordinance for construction of 27,000 yards of

brick paving with cement curb and gutter; estimated cost of paving, \$1.50 per square yard, and curb and gutter 35 cents per foot.—G. W. Graham, City Engineer.

Pekin, Ill.—The Citizens' Improvement Association has recommended the paving of Fourth street between Elizabeth and Broadway and Broadway between Fourth and Third street.—Henry Ziegenbein, Secretary.

Evansville, Ind.—Fifteen property owners along Virginia and Morton streets have petitioned the Board of Public Works for the improvement of that street from Garvin street out as far as necessary.

Indianapolis, Ind.—The Board of Public Works has adopted an even dozen resolutions for street improvements and new sewers, the total amount of the improved expenditure to be \$60,372; figures have been estimated by City Engineer Blaine Miller and in bidding the contractors may bid 10 per cent. more than the estimate; largest improvement contemplated is the paving of Beville avenue with an asphalt roadway; the next largest is paving Bradley street with a brick roadway; estimate on the former is \$14,795 and on the latter \$11,972.

Clarinda, Ia.—Citizens are urging a liberal policy of street improvement, including the immediate paving of Sixteenth street.—E. B. Westcott, Mayor.

Clinton, Ia.—City Engineer R. C. Hart has prepared plans for brick paving in several streets.

Davenport, Ia.—Farnam street from High to Colorado street may yet be paved this year; property owners living along the street are circulating a petition asking that the street be paved.

Des Moines, Ia.—Council has passed resolutions calling for \$100,000 worth of paving.

Sioux City, Ia.—Council has passed preliminary resolutions for the construction of about 45,500 square yards of brick block and about 16,000 square yards of asphalt pavement.—G. Y. Skeels, City Engineer.

Indianapolis, Ind.—The Finance Committee has reported favorably on the ordinance providing for the paving with asphalt a portion of Charters street.

Topeka, Kan.—The City Engineer has been directed to prepare plans, specifications and estimates for the paving, curbing and grading of all streets, avenues and alleys; contracts will be let in March.

Lexington, Ky.—City is considering the laying of a sidewalk on Bolivar street; Council has given first reading to ordinance directing the Board of Public Works to procure, 10,000 tons of cracked rock to be spread upon the streets.

Louisville, Ky.—The Board of Public Works is getting ready for a big street letting, and proposals will be asked during the next thirty days for about \$200,000 worth of reconstruction, besides a lot of original work; Board will advertise the work in one lot in hope of securing com-

petition from other cities. Included in programme is the laying of a creosote wooden block pavement about the City Hall and the Court House as an experiment.

New Orleans, La.—City Engineer W. J. Hardee will prepare plans for paving Jackson avenue, repairing Frenchman street and repaving Calliope street.

New Orleans, La.—N. J. Hardee, City Engineer, is preparing plans and specifications for the proposed paving of Carrollton avenue; length proposed to be paved is about 19,500 feet and there will be needed about 118,000 square yards of pitch asphalt wearing surface 2 inches thick, on concrete foundation 6 inches thick, and employing naphtha coat in lieu of binder.

Baltimore, Md.—The Colonial Park Estates Company will lay cement sidewalks as soon as the weather permits.—L. G. Turner, Baltimore Real Estate Exchange, President.

Boston, Mass.—Alderman George P. Anderson has introduced an order calling upon the Finance Committee to include in its first loan bill provisions for a loan amounting to \$100,000 for asphalt paving on Huntington avenue, between Gainsboro street and Longwood avenue.

Boston, Mass.—The financiers of State street, to secure relief from the noise of heavy teaming, have united and collected sufficient money to repave the street with wooden blocks; money will be placed to the credit of the Superintendent of the Street Department and the work will be done by that department.

Everett, Mass.—City Engineer Chris Harrison is preparing estimates for permanent pavement on different materials.

Gloucester, Mass.—Council has adopted an order appropriating \$150 for a road roller.

Holyoke, Mass.—Citizens are urging the laying out of Fairfield avenue.

Lawrence, Mass.—A joint session of the two branches of the city government has been held with representatives of the Merchants' Association, Real Estate Owners, Board of Trade, C. L. Union and other interested citizens and the unanimous sentiment shown favored the repaving of Essex street in granite blocks, with cement grout, laid in concrete, which City Engineer Marble estimated would cost about \$102,578 from Union to the B. & M. depot; Newbury, South Union, Water and Lawrence streets were also given consideration.

Lawrence, Mass.—City is considering the paving of Union street and the grading of Floral and Pleasant streets.—City Engineer Marble.

Detroit, Mich.—Council has directed the Department of Public Works to advertise for bids for paving streets as follows: Hubbard avenue, cost \$13,582; Wight street, \$13,335; Franklin street, \$16,591.—J. J. Haarer, Commissioner.

Albert Lea, Minn.—The Street Committee has reported favorably upon a petition for street pavement on three blocks on Broadway, about 8,500 square yards; either creosoted blocks or brick will be used; also 2,620 linear feet of concrete curbing.—Wm. Barneck, City Engineer.

Duluth, Minn.—The Board of Public Works will report favorably to the Council on the proposition to pave East Sixth street from Wallace to Woodland avenues.

Faribault, Minn.—A committee composed of Aldermen John Kasper, E. F. Levanson, K. S. Chase and City Attorney James McMahon, will inspect pavements in Duluth, St. Paul and Minneapolis and a selection of material will be made as contracts are to be let about April 1 for two miles of pavement.

Minneapolis, Minn.—The County Commissioners have approved a resolution for introducing a bill in the Legislature for a \$1,000,000 bond issue to be used for the purpose of constructing permanent roads; bill provides that bonds be issued at the discretion of the Board in amounts of \$1,000, to bear interest at 4 per cent.

Kansas City, Mo.—The Board of Public Works has adopted resolutions for paving a number of streets as follows: Vitrified brick pavement in alley between Madison and Summit streets, on Twenty-third and Holmes streets, and Portland cement on six alleys.

Sedalia, Mo.—City is considering the laying of 50,000 square yards of brick paving on Third street, 10,000 square yards on Monetaw street, and 6,000 square yards on Park avenue.—Charles Baker, City Clerk; F. T. Leaming, City Engineer.

Grand Island, Neb.—City will establish a paving district consisting of about 17 blocks; cost, nearly \$60,000.—C. A. Baldwin, City Engineer.

Paterson, N. J.—Commissioner Cooke has recommended the cleaning of permanent streets by contract.

Plainfield, N. J.—Council has ordered the laying out and opening of West Fifth street.

Trenton, N. J.—County Engineer F. J.

Eppele is preparing plans for 18 miles of stone roads to be constructed in Mercer County; cost, about \$125,000.

Albany, N. Y.—It is proposed to make a boulevard of New Scotland avenue from the end of the present brick pavement at the Albany hospital to the city line; preliminary plans for the boulevard extension are now being prepared in the office of City Engineer Melius.

Brooklyn, N. Y.—The Department of Highways in Queens is busy with plans for street and road improvements connecting with the Queensboro bridge and Belmont tunnel; one of the important projects is the raising and grading of Jackson avenue from Skillman to Beebe avenue.—Engineer Crowell.

Buffalo, N. Y.—Council is considering an ordinance urging that the State Highway Commission improve with brick Main street in the village of Williamsville.

Herkimer, N. Y.—Board of Trustees has adopted a resolution calling for the paving of Smith, Church and Bellinger streets.

Syracuse, N. Y.—Commissioner of Public Works, Frank M. Westcott, has estimated the cost of improving a portion of Marcellus street as follows: Sandstone or creosoted wood blocks, \$66,900; with asphalt, brick bitulithic or bituminous macadam, \$48,650; with sandstone or wood block and brick in the railroad strip, \$57,750.

Syracuse, N. Y.—The Streets and Sewers Committee will recommend that the petition for the widening of Hawthorn street from Park avenue to East avenue be granted.

Williamsville, N. Y.—At the last meeting of the Village Board of Trustees a committee was appointed to confer with the State Commissioner of Highways and the Board of Supervisors in regard to the improvement of Main street through the village; following are members of the committee: L. L. Grove, James Chalmers, Jr., J. A. C. Dodge, Daniel Krebsel, Charles Burkhardt, William Schellerman, John Britting, H. B. Long and Dr. W. H. Baker.

Akron, O.—City is considering the laying of 48,000 square yards of brick paving, on gravel foundation, with cement curbing and 16,000 square yards Medina block stone; bids will be asked for by the Council about March 15.—J. W. Payne, City Engineer.

Bucyrus, O.—Bids will be received by County Auditor J. L. Smith March 16, noon, for \$30,000 road improvement bonds.—Frederick Schefer, President; W. C. Steele and Jas. Decker, Road Commissioners.

Canal Dover, O.—The Commissioners of Tuscarawas County may submit to the voters the question of issuing bonds to the amount of \$500,000, the proceeds to be used for the purpose of building improved roads in the county.

Canton, O.—City is considering the constructing of 171,780 square feet of sidewalk, 42,653 linear feet of curbing and 24,180 square yards of paving; cost, \$300,000.—A. J. Starratt, City Engineer.

Cleveland, O.—Sixty-eight streets in addition to the fifty-two for which bids have been received will be paved this year with the money now available for the purpose; this will take care of all but twenty of the streets on which property owners have paid the full assessment for street paving; W. J. Springborn, President of the Board of Public Service, has announced that the twenty streets remaining would be taken care of by the July appropriation; in the twenty streets for which money is lacking to pave are some of the most important in the city; one of them is East 105th street; it will cost \$26,000 to pave this thoroughfare.

Columbus, O.—The Board of Public Works is considering the paving of portions of Indiana, Jefferson, Seibert, Stauring and other streets; estimated cost, \$70,000.

Dayton, O.—City Engineer Cellarius has submitted estimates for the paving and general improving of streets; for paving the following have been presented to the Service Board: Alley east of Webb, asphalt, \$1,010.90; brick, \$920.91; East Second, asphalt, \$11,164.24; brick, \$9,055.10; alley north of Third, from Webb to alley east, asphalt, \$862.84; brick, \$747.23; Grand avenue, from Broadway to Salem, asphalt, \$11,690; brick, \$8,990; Herman avenue, asphalt, \$16,308; brick, \$13,600; Springfield, asphalt, \$11,764.30; brick, \$10,265.82; Lehman, asphalt, \$3,021.94; brick, \$2,852.22; Grand avenue, from Salem to Forest avenue, asphalt, \$22,305; brick, \$18,680; Apple street, asphalt, \$4,070; brick, \$3,760; also for grading and graveling alley south of Ebert the cost is estimated at \$761, the city's share being \$660.48.

Mansfield, O.—Bids will be received about March 1 for paving with brick on concrete foundation Washington avenue, Sycamore, Elm, West Fifth and West Sixth streets; also Greenwood and Marion avenues.—O. H. Hursh, City Engineer.

St. Clairsville, O.—Council has framed an

ordinance providing for the paving of several of the principal streets of St. Clairsville; ordinance provides for the paving of Main, Marietta, Sugar, Market and Butler streets.

Steubenville, O.—The Board of Public Service is considering the construction of two miles of brick paving, with sandstone curb, gravel and sand base.—J. M. Leech, City Engineer.

Toledo, O.—Differences arising over the paving contract for Robinwood, between Islington and Nessle, resulted in the rejection by the Board of Public Service of all bids; no specifications under which asphalt block could be laid were made in the ordinance, although a majority of the property owners had signed a petition asking for such material.

Youngstown, O.—A Special Committee from the Retail Merchants' Association, composed of H. L. McElroy, G. S. Jones and Chas. Jeckell, has been appointed to take up with Council the matter of paving Chestnut street.

Portland, Ore.—The Midway Improvement Club has recommended the laying of a hard-surface pavement on Harold street.

Portland, Ore.—Proceedings for the improvement of the streets in the warehouse district of North Portland with stone blocks on a concrete base have passed Council; this means that several miles of stone block pavement, costing approximately \$300,000, will be laid the coming summer in a district which is badly in need of good streets.

Brockwayville, Pa.—Borough Council has retained E. W. Hess, Engineer, of Du Bois, Pa., to make surveys and prepare plans and estimates for 9,000 feet of paving on Main street and to arrange for a sewer system for the town.

Harrisburg, Pa.—Council has ordered the opening and grading of Thirteenth street.—C. A. Miller, Clerk.

Leetsdale, Pa.—Council has decided to call a special election to decide on the issuing of \$40,000 borough bonds, the proceeds to be used in paving the principal streets of the town; streets in question are the two running the long way of town, Broad and Ellis, and three cross streets, Fairy lane, Spencer and Rapp.

Philadelphia, Pa.—Mayor Reyburn has recommended a bill revising the lines of the Parkway west of Logan Square; proposed revision will widen Parkway on the south from 400 to 800 feet.

Williamsport, Pa.—City is considering the resurfacing of about 20,000 square yards with asphalt.—James F. Fisher, City Engineer.

Zelienople, Pa.—Town Council has received a petition for the paving of Main street.

Aberdeen, S. D.—The report of the City Engineer on the estimated cost of paving proposed for this summer showed the total amount proposed is over 75,000 square yards, the total cost of which would be \$203,963.40; of this amount there are 15,000 in street intersections, the cost to the city being \$41,955.

Nashville, Tenn.—The Board of Public Works has given second reading to ordinance appropriating \$1,000 to construct granitoid curbing and sidewalks on Eighth avenue, \$6,000 to repave Eighth avenue and \$33,800 to improve suburban streets.

San Antonio, Tex.—Frederick Terrell has been chosen Chairman of the Citizens' Committee of 15 appointed by Mayor Callahan for the purpose of devising ways and means for the permanent improvement of streets in the vicinity immediately north of Houston street.—J. M. Vance, Secretary.

Temple, Tex.—The Citizens' Paving Committee, which has had in hand the matter of securing signatures of property owners to a paving agreement, has submitted a preliminary report which shows that a district of 22 blocks has been laid off; there are 8,990 feet of paving in the district and 7,395 have been signed for.

Salt Lake City, Utah.—A boulevard will be constructed from Salt Lake City to Saltair Beach on the shores of the Great Salt Lake; improvement will cost \$60,000.—O. H. Hewlett, W. F. Beers and J. E. Langford.

Kenbridge, Va.—The Kenbridge Development will purchase a grading outfit.

Norfolk, Va.—At a conference between Comptrollers Johnston and Hodges it was decided to ask the City Engineer to secure an estimate of the cost of widening Courtney street; it is proposed to acquire a 12-foot strip on the north side of the street and add that space to the width of the roadway.

Norfolk, Va.—Citizens of Old Town Crossing on the Ocean View line are considering the establishment of a new road alongside of the Ocean View trolley line, to run out as an extension of Maltby avenue to Ocean View; a Committee consisting of Edgar L. Simpson and John B. Ferratt has been appointed to have a survey made of the route and obtain estimates for the construc-

tion work at once, so that the matter may be laid before the County Supervisors at the earliest time.

Seattle, Wash.—City Engineer R. H. Thomson has estimated the cost of the following local improvements: Grading Eighth avenue, N. W., \$35,000; Eighth avenue, West, \$29,000; West Fifty-sixth street, \$50,000; Bay street, \$25,000; Palatine avenue, \$36,000; North and West Sixty-fifth street, \$27,600; Second avenue, Northwest, \$42,000; Seventh avenue, Northwest, \$32,000; East Seventy-eighth street, \$23,200; Boylston avenue, North, asphalt paving, \$116,000; Vine street, \$67,500, and East Madison street, \$122,000.

Seattle, Wash.—Councilman Eugene Way and a delegation of Rainier Valley citizens have called on City Engineer R. H. Thomson and asked that Rainier avenue between Jackson street and the southern limits of the city, a distance of seven miles, be widened and graded; this improvement would make room for the tracks of both the Seattle Electric Company and the Seattle, Renton & Southern and leave plenty of space for traffic; surveys will be made and plans prepared for the proposed improvement, which will be paid for by property owners.

Seattle, Wash.—Citizens are urging an appropriation of \$10,000 for building a street around and across Green Lake.—Councilman W. H. Weaver.

Seattle, Wash.—City Engineer R. H. Thomson has estimated the cost of asphalt paving as follows: Boylston avenue, N., \$116,000; Vine street, \$67,500, and East Madison street, \$122,000.

Spokane, Wash.—Residents of Cannon Hill are discussing a general street paving plan for their part of the city; territory planned for paving includes Seventh, Eighth, Ninth and Tenth avenues, also Monroe street.—Attorney W. H. Winfree, Acting Governor M. E. Hay and Dr. E. R. Northrop.

Tacoma, Wash.—The City Council Committee on Streets and Alleys has recommended that the petition of A. D. Beckley and others for paving South Twelfth street from G street to Proctor street; besides South Twelfth street, three other streets will be included in the district; South Thirteenth street, Sprague avenue and Lawrence avenue will be paved; in all, more than two miles of pavement, mostly asphalt, will be laid in the district.

Middlebourne, W. Va.—City is considering construction of about one-half mile street paving; Tyler County will construct one mile of road.—J. W. Duty, Clerk County Court.

Parkersburg, W. Va.—Bids will be received February 24, noon, for furnishing concrete curb for 1909.—Frank Good, Auditor.

Racine, Wis.—Council has adopted resolutions to repave Main, East State and Sixth streets with brick; also to pave portions of Tenth and Marquette streets; Board of Public Works will ask for bids.

Tomah, Wis.—City is considering the paving of Superior avenue.

BIDS RECEIVED AND CONTRACTS AWARDED

Long Beach, Cal.—Bids were received Jan. 29 for constructing concrete bulkhead and sidewalk, and the low bidders were A. W. Calkins & Co., of Los Angeles, at \$93,000. The Patillo Concrete Company bid \$137,000; Miracle Concrete Company, Minneapolis, Minn., \$105,464, and A. D. Chalmers, \$98,867.—E. P. Hewey, Engineer; C. O. Boynton, City Clerk.

Pasadena, Cal.—For grading and paving with broken stone base, rock screening and liquid asphalt, on Dayton street, between Fair Oaks and Raymond, \$1,188 was bid by Andrew Holloway, who was awarded the job over Charles A. Baldwin, who bid \$1,188. For oiling San Pasqual with crude mineral oil between Lake and Catalina avenues, Chamberlain & Williamson bid \$376.74 and were awarded the contract. Other bidders were George H. Oswald, \$491.40; A. W. McDowell, \$466.83, and Charles A. Baldwin, \$409.50.

San Bernardino, Cal.—The bid of the Associated Oil Company and the Union Oil Company's bid to furnish road oil to the county were very close, but as the Associated could furnish Sunset oil, which some of the Supervisors desired, and for other reasons, the Board awarded the contract to the Associated, on the motion of Supervisor West, seconded by Supervisor Pine. The advertisement asked for bids for 20,000 barrels or more, ten thousand barrels or more to be delivered at certain railroad points in the county, and 10,000 or more at another set of railroad points. It was necessary to make separate quotations at each railroad point quoted, the price being graded in accordance with the railroad rate, and several bidders also made separate bids for the period before and after July 1.

The bids for oil to be furnished, f. o. b. at San Bernardino, were as follows per barrel: N. L. Levering, \$1.31; Associated Oil Company, \$1.01½ for Los Angeles oil, \$1.28½ for Sunset oil; Union Oil Company, \$1.13½; United States Oil Association, \$1.10. The bids nearly all varied on each railroad point.

Downers Grove, Ill.—Longren & Girtz, of Elgin, Ill., have been awarded contract for sewer construction amounting to \$67,141.90; the items of the bid were 29,563 cubic yards excavation at 20 cents, 45,595 square yards brick pavement at \$1.34; 66 manholes, adjusted, \$2. The totals of other bids were: M. C. Conner & Company, Chicago, \$75,503.60; John O. Jones, Racine, Wis., \$75,395.65; A. E. Rutledge & Company, Rockford, \$72,632.09; J. M. Capet & Sons, Racine, Wis., \$75,037.65.

Fowler, Ind.—The following bids were received by the County Commissioners for constructing six miles of the Keller-Ford gravel road: P. J. Kennedy (awarded contract), \$11,999; Walcott Dredge Company, \$12,807; Haws Brothers Company, \$13,399.—Lemuel Shipman, County Auditor.

Indianapolis, Ind.—Bids were received for asphalt to be used at the municipal asphalt repair plant this year, and there was some doubt as to the lowest bid received, as the Central Commercial Company, of Chicago, offered to let the city have it at \$22 a ton, free on board cars in Indianapolis, provided the freight was not greater than \$12 a ton. Other asphalt bids received were: Globe Asphalt Company, Pittsburgh, Pa., \$27 a ton; Hoosier Construction Company, \$30; California Asphaltum Sales Agency, Chicago, \$23.80. These bids were all free on board cars in Indianapolis. It is estimated that about four hundred tons of asphalt will be required.

Logansport, Ind.—John H. Smith has contract for constructing the Kitchell road for the County, at \$10,837; also for the Tritt road. Beal and Bell were awarded contract for constructing the Thomas road at \$11,321.

Marion, Ind.—The County Commissioners of Marion have awarded contracts for paving as follows: Sycamore street, Culver brick, to Wm. Yates, at about \$16,000; Mill street, with Marion block, to F. M. Benner, city, at \$8,000.

New Albany, Ind.—The Jefferson County Construction Company was awarded contracts by the Board of Public Works, Feb. 6, for the improvement of East Fifth street, from Elm street to Cuthbertson avenue, and of Locust street, from Beeler street to Charles street. The bids for Locust street were as follows: Jefferson County Construction Company, Townsend block, \$4.29; Peebles block, No. 1, \$4.14; Peebles Red Paver block, \$4.04; Hoosier block, \$4.02; Roetzel & Chipman, of Evansville, Peebles block, No. 1, \$4.30; Red Paver block, \$4.12; G. W. Palmer, of Logansport, Carlile block, \$4.38; Ewing Shields, of Seymour, Carlile block, \$4.32. The bids on East Fifth street were as follows: Jefferson County Construction Company, Townsend block, \$4.34; Peebles block, No. 1, 4.18½; Peebles Red Paver block, \$4.08; Hoosier block, \$4.06; Roetzel & Chipman, Peebles block, No. 1, \$4.50; Red Paver block, \$4.32; G. W. Palmer, Carlile block, \$4.39; Ewing Shields, Carlile block, \$4.33. Both improvements call for 26-foot roadway, with grass plat, curbing and granite sidewalk. The successful bidders also agree to construct the additional sidewalk connections at 14.8 cents per foot, the bids of the other contractors for this work being 15 cents per foot.

Lexington, Ky.—The Mayor has been authorized to enter into a contract with the Home Construction Company for oiling the macadam streets of the city of Lexington with Ragland crude oil, not exceeding 175,000 gallons, at four cents per gallon spread on the streets.

Baltimore, Md.—F. E. Schneider Paving Company, city, has been awarded contract for sheet asphalt repairs, for 1909, for \$21,983.—B. T. Fendall, City Engineer.

Gloucester, Mass.—The Municipal Council as members of the Highway Committee received two bids for furnishing broken stone for the crusher, but both were rejected. They were from Cavanaugh & Miller, 85 cents a ton, and Joseph W. Rice, \$1 a ton; the Chairman, together with the Superintendent of Streets, was authorized to put the crusher in order and proceed to break stone at their discretion and report the cost per ton.

St. Paul, Minn.—The Board of Public Works, Feb. 9, awarded contract for constructing sidewalks for the current year to the Portland Stone Company at \$83,325.

Atlantic City, N. J.—The contract for paving New Hampshire avenue and other streets was awarded by Council, Feb. 8, to the H. G. Mulock Company, at \$50,220; other bidders were: J. S. Chanley & Company, Philadelphia, \$54,302; United Paving Company, \$52,378; Edward L. Bader, \$56,765; B. F. Sweeton Company, \$52,525; Cunningham Company, \$54,061; F. S. Lockwood, \$51,967. There will be laid 720.3 square yards

6-inch macadam, 4,407 square yards, 12-in. Telford and 9,922 square yards vitrified clay block.

New Brighton, S. I., N. Y.—Bids were received, Feb. 9, by George Cromwell, President Borough of Richmond, for (A) furnishing and delivering 12,000 tons of 1½ and ¾-inch broken stone and screenings of trap rock, or Staten Island syenite, in Stone Delivery District No. 1; (B) for furnishing and delivering 8,000 tons of 1½ and ¾-inch broken stone and screenings of trap rock, or Staten Island syenite; (C) for furnishing and delivering 2,500 tons of 1½ and ¾-inch broken stone and screenings of trap rock, or Staten Island syenite, or extra hard limestone, in Stone Delivery District No. 2; (D) for furnishing and delivering 12,500 tons of 1½ and ¾-inch broken stone and screenings of trap rock, or Staten Island syenite, in Stone Delivery District No. 3. Bids were as follows: (A) Jacob E. Conklin, \$1.50 per ton; Jos. A. Boyce, \$1.69; Mountain Trap Rock Company, \$1.43; Clinton Point Stone Company, 115 Broadway, New York, \$1.35 (total \$16,200; awarded contract); Jos. Johnson's Sons, West New Brighton, S. I., \$1.60 (total \$12,800; awarded contract); Quinroy Construction Company, 1 Broadway, \$1.75; Thos. Carlin, \$1.50; Quinroy Construction Company, 1 Broadway, \$1.625.

(B) Jacob E. Conklin, \$1.75; Jos. A. Boyce, \$1.63; Mountain Trap Rock Company, \$1.77; Clinton Point Stone Company, 115 Broadway, \$1.70; Jos. Johnson's Sons, West New Brighton, S. I., \$1.60 (total \$12,800; awarded contract); Quinroy Construction Company, 1 Broadway, \$1.75; Thos. Carlin, \$1.50.

(C) Jos. A. Boyce, \$1.63; Mountain Trap Rock Company, \$1.77; Clinton Point Stone Company, 115 Broadway, \$1.27 (total \$3,175; awarded contract); Jos. Johnson's Sons, West New Brighton, \$1.40; Quinroy Construction Company, 1 Broadway, \$1.40; Thos. Carlin, \$1.62.

(D) Jacob E. Conklin, \$2.15; Jos. A. Boyce, \$1.84; Mountain Trap Rock Company, \$2.09; Clinton Point Stone Company, 115 Broadway, \$1.95; Jos. Johnson's Sons, West New Brighton, \$1.98; Quinroy Construction Company, 1 Broadway, \$1.75 (total \$21,875; awarded contract).

Rochester, N. Y.—The Board of Contract and Supply opened bids as follows for repairs to 27,700 square yards asphalt paving during the present year: Whitmore, Rauber & Vicinus, 279 South avenue, asphalt, \$1.23 per square yard; concrete 60 cents; F. C. Lauer & Sons Company, 8 Clinton avenue, asphalt, \$1.30; concrete, 65 cents; Rochester Vulcinite Pavement Company, asphalt, \$1.33½, and concrete, 95 cents. The Board, Feb. 10, awarded contract to Whitmore, Rauber & Vicinus, 279 South avenue, for a total of \$34,390.

Cleveland, O.—The County Commissioners on Feb. 6 let two contracts for road improvement. Baldwin Bros. & Graham received the contract for paving State Road No. 5, for three miles from the city limits to Aiken Road, Royalton township, at \$69,495, and the Northern Ohio Paving & Construction Company, the contract for paving Harvard Road from the city limits to the Denison-Harvard bridge, at \$26,999. Both will be brick, with concrete curb.

The other highways were ordered advertised for early improvement, Wooster, Settimen and Northfield Roads. Estimated cost, about \$19,000.

Columbus, O.—Bids are asked by the County Commissioners until noon, March 9, for macadamizing the Gahenna cemetery improvement in Mifflin township.—F. M. Sayre is County Auditor.

Toledo, O.—The contract to repave Euclid avenue, between Starr avenue and Front street, East Toledo, was awarded, Feb. 13, to the Andrews Asphalt Company at \$10,759.50.

Youngstown, O.—The lowest bids opened, Feb. 13, by the Commissioners of Road District No. 1, of Mahoning County, for furnishing material and turnpiking Salt Springs Road a distance of 6,100 feet and Vestal Road a distance of 4,800 feet, were: Kennedy Bros., on sandstone base, \$12,401; Waldeck & Ready, on limestone base, \$13,591, and L. H. Young, on slag base, \$13,100.

El Reno, Okla.—The paving contract with the Cleveland-Trinidad Paving Company, recently held up on a decision of the District Court in which it was held that the contract was invalid because the City Council had passed no ordinance assessing a tax against the property for the payment of the paving, will be resumed just as soon as Council passes the required ordinance.

Oklahoma City, Okla.—The lowest bid opened, Feb. 10 by Council for paving portions of Harrison avenue, Thirteenth and Eighteenth streets was that submitted by R. F. McCormick, for \$40,626.

Dorranceton, Pa.—The Borough Council has awarded to the B. G. Coon Construction Company the contract for paving with brick block portions of Union street and Rutter avenue, their bid being from \$1.86 to \$2.03 per square yard on various kinds of block.

Philadelphia, Pa.—Bids for paving Market street, from Delaware avenue to the

Schuylkill River, were opened, Feb. 15, in the office of Chief Benson, of the Bureau of Highways, by William R. Knight, Assistant Director of Public Works. Three paving materials were asked for by the specifications—granite, wood blocks and asphalt. In all cases it was specified that granite blocks must be laid from Delaware avenue to Second street. Samples of granite blocks were required from each bidder. Calculations of the bids show that for an all-granite pavement the Barber Asphalt Paving Company was lowest, with an offer of \$2.90 per square yard; the Cunningham Paving & Construction Company second, with \$3 per square yard, and the Millard Construction Company third, with \$3.19 per square yard. Neither the Barber company nor the Cunningham specified any time limit within which they would agree to finish the work. The Millard company binds itself to complete the job within 130 days.

For asphalt, west of Second street to the Schuylkill River, the Filbert Paving & Construction Company is lowest with a bid of \$1.94. The Barber company is second, with \$2.04. The latter concern agrees to finish the work within sixty days. The Filbert company specifies no time limit.

The bids for paving the street with wooden blocks vary widely. The Barber company is lowest, with bids of \$2.65, \$3.16 and \$3.32. In none of these is a time limit set. Neither is there a time limit in the bid of Edwin H. Vare of \$3.49. The Millard Construction Company's bid of \$3.64 is the lowest for wood in which a time limit is named. That specifies that the work will be finished within 130 days. The Cunningham Paving Company bids \$3.72 and agrees to do the work within 120 days.

Following is a summary of the bids:

Barber Asphalt Paving Company, Bid No. 7, granite to Second street, \$3.45 per square yard; balance of wood, \$3.16; different quality granite, \$2.90; balance of wood, \$2.65; low bidder on wood block Bid No. 2. All granite, \$3.59, to be laid within sixty days; granite to Second street, \$3.61; remainder asphalt, \$2.04, to be laid within sixty days; wood for remainder, \$3.32. Bid No. 5. Granite to Second street, \$3.28; wood west of Second street, \$3.16. Bid No. 6. Granite to Second street, \$3.67. Bid No. 8. Granite to Second street, \$3.22. Bid No. 3. All granite, \$3.43; time, sixty days; granite to Second street, \$3.45; asphalt west of Second, \$2.04; wood west of Second, \$3.32. Bid No. 4. All granite, \$3.20; time, sixty days; granite to Second street, \$3.22. Bid No. 1. All granite, \$3.26; granite to Second street, \$3.28; time, sixty days.
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Millard Construction Company. All granite, \$3.19; wood west of Second street, \$3.64; time 130 days.

Filbert Paving Company. Granite to Second street, \$3.50; asphalt west of Second street, \$1.94; no time limit; low bidder on asphalt.

Owen J. Enos. All granite, \$3.53; 120 days.

Michael O'Rourke, bids as per samples. All granite, \$3.96, \$3.84, \$3.64, \$3.42; time, 200 days.

William A. Ryan, all granite, as per samples: \$3.91, \$3.80, \$3.73 and \$3.60; time limit, 120 days.

Cunningham Paving Company, bid No. 1. All granite, \$3.41; time limit, 120 days; wood pave west of Second street, \$3.72; time limit, 120 days. Bid No. 2. All granite, \$3.50; wood west of Second street, \$3.72; time, 120 days. Bid No. 3. All granite, \$3.36; wood west of Second street, \$3.72; time, 120 days. Bid No. 4. All granite, \$3.00; wood west of Second street, \$3.72; time, 120 days; low bidder on granite block.

Edwin H. Vare. Granite to Second street, \$3.19; wood west of Second street, \$3.49; no time limit stated.

Mack Paving and Construction Company. All granite, \$3.29; no time specified; all granite, \$3.58; time, 180 days; all granite, \$3.41; time 180 days; all granite, \$3.35; time, 180 days.

York, Pa.—Contracts for the construction of good roads with State aid in Dillsburg borough and Peach Bottom township have been signed by the County Commissioners; the three stretches, aggregating two miles, will cost \$20,252; County's one-eighth share will be \$2,531.50. The section to be improved in Dillsburg is 5,070 feet long. The contract for its reconstruction has been awarded to Thomas Meehan & Sons, of Philadelphia, at \$10,351.20. In Peach Bottom township two stretches will be built; they will be a half-mile in length and will begin at the limits of Delta borough. The Woodbine road will cost \$5,271.20 and the Peach Bottom road \$4,629.60. The contracts for the two sections have been awarded to E. M. Good, Lancaster.

Olympia, Wash.—W. A. Weller has secured the contract for paving Main street, between Third and Seventh street with brick, about 6,500 square yards, for \$19,893. Other bids received were as follows: Keasel Construction Company, \$20,678; Lister Con-

struction Company, \$21,051; Geo. M. Savage, \$20,926, and W. J. Murphy, \$23,421.

Seattle, Wash.—The Board of Public Works has awarded the following contracts for street improvements: Bagley avenue and other streets, concrete sidewalks, to Joe Frank, 602 Bellevue street, north, at \$17,045; Olga street and other streets, grading, to Agassiz & Hadley, at \$19,438; Seventeenth avenue, south, and other streets, planking, to A. K. Dye, at \$8,657.

Tacoma, Wash.—The Hunt & Motte Company have been awarded contract by the County Commissioners for furnishing a No. 5 Austin gyratory rock crusher complete for \$2,666; Caldwell Brothers offered a Gates crusher for \$2,666.30, and Beall & Company, Portland, Ore., an Austin crusher for \$3,575.

The Independent Asphalt Paving Company has secured contract for paving portions of Alder, Center and South Twenty-seventh street for \$89,116.

Charleston, W. Va.—The Atlantic Bituminous Company of Richmond, Va., has been awarded the contract for paving streets with bituminous; the contract is for approximately sixty-five thousand yards of bituminous, the cost to be \$150,000.

SEWERAGE

Fort Smith, Ark.—Before the present big sewer contract is completed there may be another large contract let for the extension of the present system; while no definite decision has been reached, the matter of carrying the main trunk, which now empties into the old "Buttermilk Branch," about a quarter of a mile west of the junction of the Fifth street car line and the Suburban railroad, to the Arkansas River, about half a mile west, is under consideration.—Engineer Meyers.

Chico, Cal.—City Trustees are considering the calling of an election on \$100,000 bonds; included in this is \$15,000 for a storm sewer.

Pasadena, Cal.—Council has passed a resolution of intention for the construction of sewers on Harkness, Marion, Modena, Bonnie, Meredith and Walnut avenues, all sewers to be 8-inch vitrified salt glazed pipe; resolution of intention for construction of sewers on Michigan avenue, Holliston Hill, Locust, Maple and along Villa, all sewers to be 8 inches, vitrified, salt glazed pipe.

Pasadena, Cal.—The Trustees have decided to ask for bids on the Marengo storm drain. The drain was broken during the first heavy storm of the season; new drain will be of 24-inch pipe.

San Jose, Cal.—Superintendent V. M. Trace has recommended the repairing of the wooden portion of the outfall sewer.

Bushnell, Ill.—City is considering installation of sewer system.

Chicago, Ill.—The Sanitary District has passed an order instructing the Engineering Department to prepare an estimate of the costs for constructing an intercepting sewer for the drainage of the Calumet district; cost, about \$20,000,000.—Robert R. McCormick, President Board of Trustees; I. J. Bryan, Clerk.

Edwardsville, Ill.—The Board of Local Improvements has plans for a 15-inch sewer from the city's septic tanks direct to the creek; installation of automatic flush tanks is also considered.

Mt. Morris, Ill.—Citizens soon will vote on construction of sewers; cost about \$29,869.—J. A. Davison, Polo, Engineer.

Greencastle, Ind.—Council has appointed a committee consisting of B. F. Corwin, an attorney; Ferd. Lucas and John Cannon, to act with them on the construction of a sewerage system; engineer has not been selected.

Kendallville, Ind.—City is considering construction of a sewer in North street.

Davenport, Ia.—Council has voted to allow the Orphans' Home to connect its sewerage system with the big Fourteenth district sewer that drains the entire eastern and northern districts of the city; Orphans' Home is allowed to connect on its paying the city \$2,500 and making the connection at its own expense.

Marion, Kan.—Engineer Carl Pleasant, of the Engineering Department of the University of Kansas, Lawrence, Kan., has prepared plans for sewer system.

Newton, Kan.—G. L. M. Lane is making preliminary surveys for Districts 2 and 3; also plans for septic tank.

Topeka, Kan.—A petition for a large sewer is being circulated; if the petition is accepted and the sewer is constructed it will be the biggest sewer in the city and will run from the new addition to the city, Elmhurst, to the Kansas River; cost will probably reach \$100,000.

Lexington, Ky.—Council is considering construction of sewers on East Maxwell street and Grosvenor avenue.—J. E. Cassidy, City Clerk.

Louisville, Ky.—The Board of Public Works has granted a permit to the Sewer Commission for a concrete sewer 1,000 feet long and two feet in diameter in St. Xavier street.

New Orleans, La.—The New Orleans Charity Hospital will install a sewerage system; cost, \$18,000.—Dr. E. S. Lewis, Vice-president Board of Administrators.

Boston, Mass.—The Board of Aldermen has referred to the Finance Committee an order appropriating \$664,000 to be used for the construction of sewerage works within the watershed of the Charles River basin.

Winchendon, Mass.—Town will elect for the first time in the history of Winchendon a Board of Sewer Commissioners; town has also accepted the act of the revised laws of 1906 granting permission to install a sewerage system in Winchendon, and article 5 of the warrant is for the town to give instructions to the Commissioners.

Cassopolis, Mich.—The Buildings and Ground Committee of the Board of Supervisors has offered to pay \$5,000 to the Village Council toward the cost of installing a sewerage system in the village.

Albert Lea, Minn.—City is having plans prepared for 2,350 feet of 18-inch sewer and 2,100 feet of concrete or brick horse-shoe and egg-shaped sewer; a lifting system will also be installed.—William Barkneck, City Engineer.

Grenada, Miss.—Citizens are considering a bond issue for the extension of sewer mains to suburban points and for a new City Hall.

Sedalia, Mo.—City is considering the construction of a sanitary district sewer; cost, \$65,000.—Charles Baker, City Clerk; F. T. Leaming, City Engineer.

St. Louis, Mo.—Sewer Commissioner Fardell is promoting a bill to authorize the first step of the general scheme to keep sewage out of River des Peres; bill provides for the construction of 900 feet of 10-foot sewer and 4,800 feet of 8-foot sewer to carry the foul water which makes its way into river between Mississippi River and Alabama street; cost, about \$215,000.

Blair, Neb.—Citizens are considering the construction of a sewerage system.

Tecumseh, Neb.—H. H. La Master is Chairman of a Committee appointed to secure an Engineer for the installation of a sewer system.

Bordentown, N. J.—The State Board of Health has approved plans for a sewerage purification and disposal plant.

Garwood, N. J.—City will install sewer system in the Westfield section.—Adam Fomcourt, Street Commissioner.

Batavia, N. Y.—Rudolph Hering and A. L. Webster, 170 Broadway, New York, Consulting Engineers, are preparing plans for the construction of the proposed sewage disposal plant and pumping station; bids will soon be asked; equipment of the plant will include one 150-h.p. engine, a boiler of 150-h.p., two motor-driven pumps, one additional pump with lower rating, and manholes and castings; cost, \$150,000.

Binghamton, N. Y.—City has selected Consulting Engineer George L. Robinson, New York City, to act with City Engineer John A. Giles in connection with proposed new sewage disposal plant.

Newburgh, N. Y.—City is considering construction of a sewer in Carpenter avenue and extension of sewer in Dubois street.—D. J. Coutant, City Clerk.

Syracuse, N. Y.—Secretary Frederick T. Pierson, of the Board of Contract and Supply, has been advertising for proposals for furnishing and installing a flushing sanitary system at the new Truant School Building in Court street.

Utica, N. Y.—Plans have been prepared by the City Engineer for the additions to the storm water sewer system to be constructed this year in that portion of the city between Genesee, Oneida, Pleasant and Prospect streets; plans have been turned over to the Commissioner of Public Works.

Marion, N. C.—Cochran & Cochran, Greenwood, S. C., have prepared plans for a sewer system for the East Marion Realty Company.

Grand Forks, N. D.—Plans have been prepared for a sewer from the Red River of the North along De Mers avenue to Seventh street.—W. H. Alexander, City Auditor.

Canton, O.—City is considering the construction of a sanitary sewer in Clarendon street.

Canton, O.—The Board of Public Service will receive bids about March 1 on the following work: Vitrified tile sanitary sewer in Bluff and East Eighth streets; 8-foot storm sewer in Liberty street; also for paving McKinley avenue; total cost, \$47,000.—City Engineer A. J. Starratt.

Ironon, O.—An election will be held March 27 to decide whether the proposed sewer route will be down Pine street or Ellison avenue; if Ellison avenue route is selected, \$45,000 bonds will be issued.—City Solicitor Irish.

Louisville, O.—Plans for a sewage disposal plant and sewers for Stark County are being prepared by Engineer F. E. Myers, 200 North Market street, Canton; seven or eight miles of 8, 10 and 12-inch vitrified tile sewers will be required.—Paul Loichot, Mayor.

Mansfield, O.—Plans for 8-inch vitrified tile sewers have been prepared by City Engineer Ora H. Hursh as follows: Lawrence avenue, Hammond avenue, Poplar and Mulberry streets; bids will be asked about March 1.—S. F. Bell, President Board of Public Service.

Niles, O.—A viewing trip to one of the proposed sites of the sewage disposal plant has been taken by Mayor Naylor, Solicitor Smith, Server Lewis and members of the Sewer Committee of Council and Engineer Brewer; site on the Wilson estate was looked over and its value and desirability discussed.

Oxford, O.—The Village Council has taken formal action upon the sewerage proposition which has been hanging fire for some time between Miami University and the Council; some time ago the Building Committee of Miami University made a proposition to the Council that it would pay annually \$100 toward taking care of the disposal plant of the Oxford sewerage system, and at the meeting this proposition was accepted; Miami University will also pay into the sewerage fund a lump sum of \$8,867.40 and will make all its own connections to the sewerage mains.

Wadsworth, O.—City will lay seven to eight miles of 8, 10 and 12-inch vitrified tile pipe; Engineer J. H. Hall, 130 East Tuscarawas street, Canton, O., is preparing plans.

Wapakoneta, O.—The State Board of Health has approved plans for the sewage purification works for the Auglaize County Infirmary.

Warren, O.—Consulting Engineer Alexander Potter, 143 Liberty street, New York City, will prepare plans for a sewerage system and disposal plant.—B. C. Smith, City Engineer.

Oklahoma City, Okla.—Citizens will vote April 6 on \$200,000 bonds for the construction and extension of sewerage system.

Allentown, Pa.—Citizens have defeated proposed loan for house sewerage.

Dixmont, Pa.—The State Board of Health has approved plans for sewage disposal of the Dixmont Insane Asylum.

Milton, Pa.—The State Board of Health has approved plans for a sewage disposal plant.

Washington, Pa.—Dr. C. B. Wood, of Monongahela, representing the State Health Department, has served notice on the County Commissioners and the County Poor Board that the practice of emptying sewage into Chartiers Creek from the County Poor Home and the Children's Home must stop within 30 days; notice means that a sewage disposal plant must be erected at once; Commissioners have made all their appropriations for the year, and to provide for a plant will likely ask the Court to authorize a bond issue; a sewage disposal plant at a cost of \$125,000 will in all probability be erected, or arrangements made to pump sewage into Washington plant.

York, Pa.—Citizens have defeated the proposed sewer loan.

Providence, R. I.—The East Providence Business Men's Association is discussing the sewer system plans of the town.

Rock Hill, S. C.—Citizens have voted \$250,000 for the construction of a sewerage system.

Charleston, S. C.—City has estimated cost of completing the sewerage system at about \$300,000.—J. H. Dingle, City Engineer.

Binghamton, Tenn.—Citizens have voted \$25,000 bonds for construction of sewer, electric light and water systems; estimated total cost of sewer system, \$14,950; George B. Stewart Mayor.

Murfreesboro, Tenn.—Citizens are considering the construction of a sewerage system.

Nashville, Tenn.—The Board of Public Works has given second reading to ordinances appropriating \$1,100 to construct sewer in alley between Scovel and Monroe streets and \$1,350 to construct sewers in alleys between Hudson and Eighteenth avenue.

Tullahoma, Tenn.—Citizens are considering the calling of an election on \$50,000 bonds for the establishment of a sewer system.

Tacoma, Wash.—At the spring election to be held April 6, taxpayers will be asked to vote on two bonding propositions, creating a total indebtedness of \$350,000; of this amount, one proposition will carry \$275,000 and the other will carry \$75,000; sum of \$275,000 is to be asked for the purpose of building bridges, while \$75,000 is for use in the construction of three large storm water sewers; sewers that are to be built will drain those sections of the city that

need it most; one sewer will be built on East T street from Thirty-second street to the Puyallup River; cost of this system will be \$24,137.50; another sewer, to be built at a cost of \$16,122.75, will be laid on Park avenue from South Fifty-sixth to South Fortieth street; third system will be built at a cost of \$34,275.70; it will be on Sheridan avenue and O street between South Forty-sixth and Wapato Lake.

Clarksburg, W. Va.—Citizens have rejected \$120,000 bond issue for sewer and water works extension and improvement.

Wheeling, W. Va.—Since the installation of flood gates in the sewers of the Eighth Ward, some of the Sixth Warders are entertaining the idea that their ward has been discriminated against, and as a result a petition is being circulated asking that all sewers emptying into Caldwell's run be protected with flood gates; repairs that would necessarily have to be made before gates could be installed is another thing the agitators of the move are seeking, as under the present conditions the sewers are said to be a menace to the health of the community.

Baraboo, Wis.—Bids will be received in August for construction of sewer system and for concrete pipe, etc.; cost, \$6,000.—H. E. French, City Engineer.

La Crosse, Wis.—Plans have been prepared by City Engineer Geo. P. Bradish for 10,000 feet of 10 and 12-inch sanitary sewers and 3,000 feet trunk sewer; cost, \$100,000.

Vancouver, B. C., Can.—The proposal of the Point Grey Council that the city in the immediate future take care of the sewerage service through the city limits of an area of 715 acres of the suburban district, including Shaughnessy Heights and D. L. 472, has been referred to the Engineers of the Council in company with the C. P. R. Engineer; latter official is included as the railway company intends to install a sewerage system on the heights before the property is placed on the market, which will be during the present year; new sewer will come down Oak or Laurel street and will necessarily be of large dimensions.

BIDS RECEIVED AND CONTRACTS AWARDED

Birmingham, Ala.—The Street Committee of Council has decided to recommend that contracts for about \$200,000 of sewers on the South Side be let to the lowest bidders whose bids were filed Feb. 8. The successful bidders are: C. M. Burkhalter, Dunn & Lallande Bros., P. W. Turner and Birmingham Paving Company. The work is to be done in section and the bidding was by sections. Under the contracts, as recommended by the committee, the work is to begin April 1 and be completed in one year. The concrete sewer of Section No. 1 calls for 1:2½:5 slag concrete in bottom and side walls, and 1:2:4 stone concrete, reinforced, for the top. The bottom is 5 inches thick, lined with vitrified brick. The sides are 21 inches thick, vertical. The top is 14 inches deep, reinforced with ½-inch round steel bars spaced 12 inches on centers. All others were circular in form. Bids were made on brick and lock joint pipe at same prices. The material to be excavated is heavy clay and limestone. On Section No. 1 and part of No. 7 the excavation is in the bottom of open ditches with small streams in them. The totals of all bids received on each section and the details of the successful bid, as arranged by Maury Nicholson, City Engineer, were as follows:

Section I.—Totals: P. W. Turner, \$55,920.50; C. M. Burkhalter, \$57,053; Dunn & Lallande Bros., \$59,953; Sullivan & Long, \$60,246.10; Birmingham Paving Company, \$63,163; P. H. O'Brien & Company, \$72,737.30.

The details of the low bid of P. W. Turner follow: 540 feet concrete sewer, 8x12 feet, at \$15.80; 2,120 feet concrete sewer, 8x11 feet, at \$15.40; 100 feet 18-inch pipe sewer, 0 to 6 feet deep, at 75 cents; 260 feet 18-inch, 6 to 8 feet deep, 90 cents; 800 feet 15-inch, 0 to 6 feet deep, 63 cents; 12 corner inlets, \$22.50 each; 13 side inlets, \$22.50 each; 6 manholes, \$25 each; 4,000 cubic yards solid rock excavation, \$1.50; 14,000 cubic yards excavation, 47 1-2 cents; 700 cubic yards excavation in bottom of outfall ditch, 75 cents.

Section II.—Totals: Dunn and Lallande Bros., \$64,333; Birmingham Paving Company, \$65,382.50; C. M. Burkhalter, \$68,930.50; Sullivan & Long, \$71,262; P. H. O'Brien & Co., \$92,885.50.

The details of the low bid of Dunn and Lallande Bros. follow: 600 feet three-ring, 8-foot brick sewer, 10 to 12 feet deep, \$12.25; 680 feet, 12 to 14 feet deep, \$13.75; 510 feet 7 feet 6 inches, 6 to 8 feet deep, \$10.25; 440 feet, 10 to 12 feet deep, \$10.50; 200 feet two-ring 6-foot, 8 to 10 feet deep, \$5.85; 400 feet, 10 to 12 feet deep, \$6.50; 400 feet, 12 to 14 feet deep, \$7.60; 400 feet, 14 to 16 feet deep, \$8.10; 400 feet, 16 to 18 feet deep, \$9.35; 550 feet, 18 to 20 feet deep,

\$12; 200 feet two-ring, 6 feet 9 inches, 10 to 12 feet deep, \$7.90; 300 feet, 12 to 14 feet deep, \$8.40; 200 feet, 4 feet 6 inches, 6 to 8 feet deep, \$5; 350 feet, 8 to 10 feet deep, \$6.37; 500 feet 18-inch pipe, 0 to 6 feet deep, \$6.37; 500 feet, 80 cents; 19 corner inlets, \$18 each; 19 side inlets, \$16 each; 11 manholes, \$30 each; 2,000 cubic yards solid rock, \$2.50; 1,400 feet 15-inch pipe, 0 to 6 feet deep, 60 cents; 200 feet 6 to 8 feet deep, 80 cents; 70 feet, 8 to 10 feet deep, 95 cents.

Section III.—Totals: C. M. Burkhalter, \$20,391; Birmingham Paving Company, \$20,497; Dunn & Lallande Bros., \$21,161; Sullivan & Long, \$21,458.50; P. H. O'Brien & Co., \$31,108.50; Noll Construction Company, \$35,252.

The details of the low bid of C. M. Burkhalter follow: 300 feet two-ring sewer, 6 feet 9 inches, 10 to 12 feet deep, at \$8; 800 feet, 5 feet 9 inches, 6 to 8 feet deep, \$5.75; 900 feet, 5 feet 9 inches, 8 to 10 feet deep, \$5.90; 100 feet, 6 feet 9 inches, 10 to 12 feet deep, \$6.75; 200 feet, 5 feet, 6 to 8 feet deep, \$4.60; 160 feet, 8 to 10 feet deep, \$5.15; 200 feet pipe, 24 inches, 0 to 6 feet deep, \$1.45; 260 feet pipe, 6 to 8 feet deep, \$1.55; 1,980 feet pipe, 15 inches, 0 to 6 feet deep, 75 cents; 140 feet pipe, 6 to 8 feet deep, 85 cents; 19 corner inlets, \$15 each; 18 side inlets, \$15 each; 8 manholes, \$20 each; 1,200 cubic yards solid rock, at \$2; 500 cubic yards excavation, 50 cents.

Section IV.—Totals: C. M. Burkhalter, \$12,131; Birmingham Paving Company, \$12,812; Sullivan & Long, \$12,909; Dunn & Lallande Bros., \$14,770.20; Noll Construction Company, \$19,636; P. H. O'Brien & Co., \$15,880.20.

The details of the low bid of C. M. Burkhalter follow: 200 feet two-ring, 3 feet 6 inches sewer, 0 to 6 feet deep, \$3.45; 500 feet, 6 to 8 feet deep, \$3.75; 220 feet, 8 to 10 feet deep, \$4.20; 200 feet, 10 to 12 feet deep, \$4.60; 800 feet one-ring 3-foot sewer, 0 to 6 feet deep, \$2.05; 500 feet one-ring 6 to 8 feet deep, \$2.20; 200 feet one-ring, 8 to 10 feet deep, \$2.50; 200 feet, one-ring, 10 to 12 feet deep, \$2.90; 200 feet, one-ring, 2 feet 6 inches, \$1.85; 500 feet, 6 to 8 feet deep, \$2.05; 120 feet, one-ring, 8 to 10 feet deep, \$2.35; 1,140 feet 15-inch pipe, 0 to 6 feet deep, 75 cents; 14 corner inlets, \$15 each; 14 side inlets, \$15 each; 10 manholes, \$20 each; \$500 cubic yards solid rock, \$1.50.

Section V.—Totals: C. M. Burkhalter, \$13,555; Sullivan & Long, \$14,382; P. H. O'Brien & Co., \$20,261.40; Dunn & Lallande Bros., \$21,608; Noll Construction Company, \$23,445.

The details of the low bid of C. M. Burkhalter follow: 200 feet two-ring 4-foot sewer, 0 to 6 feet deep, at \$3.75; 1,200 feet, 6 to 8 feet deep, \$4.10; 200 feet, 8 to 10 feet deep, \$4.50; 200 feet, 10 to 12 feet deep, \$5; 100 feet, 12 to 14 feet deep, \$5.85; 600 feet, one-ring, 3-foot sewer, 0 to 6 feet deep, \$2.05; 600 feet, one-ring, 6 to 8 feet deep, \$2.25; 240 feet, one-ring, 8 to 10 feet deep, \$2.50; 1,200 15-inch pipe, 0 to 6 feet deep, 75 cents; 15 corner inlets, \$15 each; 15 side inlets, \$15 each; 6 manholes, \$20 each; \$500 cubic yards solid rock, \$1.50.

Section VI.—Totals: Birmingham Paving Company, \$35,204.50; C. M. Burkhalter, \$35,132.50; Sullivan & Long, \$35,911.30; Dunn & Lallande Bros., \$37,430.50; P. H. O'Brien & Co., \$49,681.80; Noll Construction Company, \$58,164.50.

The details of the low bid of the Birmingham Paving Company follow: 50 feet, two-ring 6-foot sewer, 0 to 6 feet deep, at \$6.15; 370 feet, 12 to 14 feet deep, \$7.75; 200 feet, 5-foot sewer, 8 to 10 feet deep, \$5.70; 1,160 feet, 10 to 12 feet deep, \$6.20; 600 feet, 4-foot 6-inch sewer, 8 to 10 feet deep, \$5.30; 1,400 feet, 10 to 12 feet deep, \$5.60; 180 feet, 12 to 14 feet deep, \$6.10; 510 feet, 4-foot sewer, 0 to 6 feet deep, \$4.15; 420 feet, one-ring 2-foot 6-inch sewer, 0 to 6 feet deep, \$1.75; 300 feet one-ring, 3-foot 6-inch sewer, 8 to 10 feet deep, \$2.30; 60 feet, one-ring, 3-foot sewer, 10 to 12 feet deep, \$2.50; 600 feet, one-ring, 2-foot 6-inch sewer, 6 to 8 feet deep, \$1.75; 100 feet, one-ring sewer, 8 to 10 feet deep, \$2.05; 2,000 feet 15-inch pipe, 0 to 6 feet deep, 65 cents; 33 corner inlets, \$22 each; 33 side inlets, \$20 each; 18 manholes, \$25 each; 1,000 cubic yards solid rock, \$2.25; 400 feet 18-inch sewer, 0 to 6 feet deep, 90 cents; 300 feet, 6 to 8 feet deep, \$1.05; 440 feet, 8 to 10 feet deep, \$1.30.

Section VII.—Totals: Birmingham Paving Company, \$20,183; C. M. Burkhalter, \$21,902; Dunn & Lallande Bros., \$22,421; Sullivan & Long, \$23,500.50; P. H. O'Brien & Co., \$30,118.80.

The details of the low bid of the Birmingham Paving Company follow: 200 feet, two-ring 6-foot 6-inch sewer, 0 to 6 feet deep, \$6.50; 100 feet, 6 to 8 feet deep, \$7.35; 910 feet, 10 to 12 feet deep, \$7.90; 200 feet, 12 to 14 feet deep, \$8.50; 200 feet, one-ring 2-foot 6-inch sewer, 6 to 8 feet deep, \$1.75; 300 feet, 6 to 10 feet deep, \$1.75; 1,000 feet 18-inch pipe, 0 to 6 feet deep, 90 cents; 430 feet, 6 to 8 feet deep, \$1.05; 3,190 feet 15-inch pipe, 0 to 6 feet deep, 65 cents; 590 feet, 6 to 8 feet deep, 80 cents; 26 corner

presented February 3.—The Riggs & Sherman Company, Toledo, Engineers.

Knoxville, Tenn.—Joseph A. Hannifin, of Knoxville, has contract to construct sewer lateral on Wells avenue 1,000 feet long; will connect with extension of first creek main and will be paid out of funds remaining from \$15,000 bond issue.

Dallas, Tex.—For the laying of a 6-inch sanitary sewer on Allen street, between McKinney and Manila, the contract was awarded to C. W. Olcott on his bid of \$68, against the Dallas Home Improvement Company, at \$69.75, and the Dallas Lime & Gravel Company at \$79.70.

For a like work on Allen street, between Cochran and Flora, the contract went to C. W. Olcott on his bid of \$413 against that of \$415 by George S. Vivian, \$459.80 by the Dallas Home Improvement Company, and \$521 by the Dallas Lime and Gravel Company.

Tacoma, Wash.—H. J. McGregor, Commissioner of Public Works, has awarded contract for constructing sewers in Districts 175 and 184 to N. Manica for \$16,960.

WATER SUPPLY

Booneville, Ark.—The Booneville Water and Light Company will install a complete water works system in connection with their electric lighting plant to cost \$100,000 to \$150,000; bids will probably be received about April 1.—W. A. Fuller, Chemical Bldg., St. Louis, Mo., Engineer.

Camden, Ark.—City is considering the construction of water works.

Colton, Cal.—Council has passed a resolution authorizing the City Clerk to advertise for pipes necessary to connect with the main in sizes 10, 6 and 4-inch.

Colton, Cal.—Council has given the Water Superintendent authority to get the material and have the city wells and reservoir cleaned.

Oakland, Cal.—City Engineer Turner has filed with the City Council comprehensive plans and specifications for the pipe system for the high pressure auxiliary salt water fire system in accordance with an adopted resolution; system for the first section of the business area of the city, with a maximum length of 500 feet of hose will give ten fire streams each of 200 gallons per minute and will cover sixty blocks between Sixth and Fifteenth streets east of Jefferson street; City Engineer Turner estimates that the installation of this portion of the system, including street repairs, will be \$54,500.

Oakland, Cal.—The Ordinance and Judiciary Committee has recommended to the Council that the sum of \$54,500 be appropriated for the installation of the pipe system for the salt water plant being erected at the Willows on Lake Merritt; pipe system is to cover a space of 60 blocks between Sixth and Forty-fifth streets, east of Jefferson street, 500 tons of water to be used.

Petaluma, Cal.—City has had plans prepared for the construction of a high pressure salt water fire protection pumping plant.

Sacramento, Cal.—The Water Committee of the Board of City Trustees, which has been taking the preliminary steps toward securing a filtration plant for the city, will soon draw up a report with recommendations as to what should be done to be submitted to the Board of Trustees; Trustee George K. Rider and City Engineer George N. Randle have been giving the matter of filtration considerable study; cost of plant, \$700,000.

Tampa, Fla.—The Tampa Water Works Company will soon award contract for erection of 40-foot brick addition to water works plant on river; will install pump with capacity of 5,000,000 gallons per day; R. D. Wood & Co., Philadelphia, Pa., has contract for pipe to be used in extension of mains.—Chester McFarland, Manager.

Roanoke, Ill.—Citizens will vote in the spring on water works bond issue.

South Bend, Ind.—Bids will be received by the South Bend City Water Works February 24, 10:30 a. m., for the following disc water meters, delivered f.o.b. cars South Bend: 300 $\frac{5}{8}$ -inch with connections, with the privilege of recording in lots of 50 during the year 1909; also for east-iron pipe, gate valves, etc.

Earlham, Ia.—Citizens have voted to issue bonds for the construction of water works and an electric light plant.

Ness City, Kan.—It has been decided to build a concrete dam, 10 feet higher than the creek bed, across the North Fork of the Walnut, on or near the section line which bounds Ness City on the west; \$300 had been subscribed by citizens toward the project and it was considered enough to go ahead and make permanent arrangements to have the dam built as soon as freezing weather is over.—Chairman A. W. Wilson.

Baltimore, Md.—The Fire Commissioners have approved the plans of D. B. Banks for the pipe line system in the section

bounded by Franklin and Eutaw streets.—B. T. Fendall, City Engineer.

Baltimore, Md.—The Colonial Park Estates Company will install a system of water works as soon as the weather permits.—L. G. Turner, Baltimore Real Estate Exchange, President.

Baltimore, Md.—The Roland Park Company will purchase a steam pump, 1,000 to 2,000 per minute, for pressure of not less than 200 pounds.

Towson, Md.—Baltimore County Water and Electric Company is considering construction of reservoir at site of standpipe.

Walkersville, Md.—Dr. John Nicodemus, B. I. Jamison, Franklin D. Harshman, and Lincoln D. Dinterman have formed a company to construct water works; estimated cost, \$20,000.

New Bedford, Mass.—The Committee on Water Supply of the Legislature is considering the bill of Mayor William J. Bullock, of New Bedford, authorizing the city to incur indebtedness to an amount not exceeding \$250,000, for the construction of a duplicate supply main from the High Hill reservoir to the New Bedford water works distributing system.

Battle Creek, Mich.—The Board of Public Works has decided to buy auxiliary pumps for the Gogna Lake pumping station from home manufacturers; they will be of the steam type.

Minneapolis, Minn.—The Board of Examiners has given notice that an examination in hydraulic and mechanical engineering will be given March 15, 10 a. m., for the position of Supervisor of the Water Works.—Andrew Rinker, F. H. Bass and F. W. Cappelen, Board of Examiners.

Minneapolis, Minn.—City is considering the laying of a main on Seventh avenue.

Grenada, Miss.—Citizens are considering the calling of an election on bonds for better equipping the water and light plant, for extending the sewer mains to suburban points and for building a new City Hall.

Harrisonville, Mo.—Citizens have voted bonds for water works.

Helena, Mont.—Holding that the contract entered into between the city of Helena and the American Water and Light Company, of Kansas City, for the sale of bonds authorized at a special election for the purpose of constructing a municipal water plant, was invalid because conditioned upon the approval of counsel, Judge W. H. Hunt in the United States Court has given notice of a restraining order, the effect of which will be to prevent the construction of such municipal plant under the present contracts; opinion undoes all that which has been done with respect to the construction of a municipal water plant save the bond issue of \$600,000 voted at a special election for this purpose.

Falls City, Neb.—City will purchase a new 200-h.p. water tube boiler and a 300-h.p. open feed water heater.

Litchfield, Neb.—Citizens have voted to issue water works bonds.

Hawthorne, N. J.—A conference between the Councilmen of the Borough of Hawthorne and the officials of the East Jersey Water Company will be held soon; Borough is considering the proposition of a water supply, and the conference is to be held for the purpose of deciding upon satisfactory terms; at the present time the Councilmen are considering the installation of pipes along the thoroughfares covering seven miles in all; in order that this may be done it will become necessary for the borough to install a certain number of fire hydrants.

Jersey City, N. J.—Chief Engineer Chas. Van Keuren has prepared plans for a high pressure fire service; cost, \$25,000.

Lodi, N. J.—Citizens will vote on purchasing the plant of the Lodi Water Company and improving the same.

Netcong, N. J.—A petition of property owners has been filed with the Mayor and Council, asking that a special meeting be called to vote on the question of purchasing the Rockland Water Company's plant.

North Arlington, N. J.—Council has decided not to receive any new bids on March 3 for furnishing and laying approximately 17,340 linear feet 6-inch, 6,960 linear feet 8-inch and 280 linear feet 4-inch cast-iron bell and spigot pipe, hydrants, valves, etc.; bids opened February 3 will be reconsidered; two lowest bidders were Edw. Sargent, of Kearny, at \$20,855, and the Salmon Bros. Company, of Arlington, at \$21,517.—Wise & Watson, Engineers, Rutherford; H. C. Bayliss, Borough Clerk.

Woodbury, N. J.—New mains will soon be necessary for Woodbury's water system; mains have been in the ground over 20 years and frequent breaks show the pipe is getting very thin.

Brooklyn, N. Y.—City will sell \$10,000,000 bonds March 2; \$2,000,000 will be used for water supply development.—Comptroller Herman Metz.

Buffalo, N. Y.—City has sold \$500,000 water bonds.—F. G. Ward, Commissioner of Public Works.

Cohoes, N. Y.—The Board of Water Commissioners has selected Consulting Engineer E. A. Gray, Boston, Mass., to revise plans and specifications for the proposed filtration plant; new bids will be called for in the spring.

Crogan, N. Y.—Civil Engineer S. S. Snell has prepared plans for a water system; estimated cost, \$30,000.

Himrod, N. Y.—City is considering installation of a gravity water works system.—Herbert W. Jones.

Mansfield, N. Y.—Councilman Bentley has introduced at the regular meeting of the Borough Council the subject of the purchase of the water system from the Mansfield Water Company, and as a result of his remarks and the reading of the law of 1907, providing for such purchase, the initial step was taken in the direction of municipal ownership of the plant.

Ogdensburg, N. Y.—City is having plans prepared for the abandonment of Oswegatchie Creek as a source of water supply and for the construction of a sand filtration plant for purifying St. Lawrence River water and for erecting a standpipe and new high pressure mains; cost, \$175,000.

Rochester, N. Y.—Secretary Pifer has been directed to advertise for bids for the general contract for water meters for the year 1909, the bids to be limited to the following makes: Nash meter, Hersey disc meter, Lampert meter and Trident disc meter.

Rochester, N. Y.—The Summerville Cotagers Association has voted to petition for a water district in Summerville.

Schenectady, N. Y.—Bids will be received February 24 by Harry Miller, Secretary Council, for water supply castings, pipe, steam gauges, special service supplies and castings.

Bryson City, N. C.—City is considering the construction of a water works system.

Lumberton, N. C.—City is considering construction of a 100,000-gallon reservoir, to be used in connection with tank which contains 66,000 gallons; reservoir will be supplied with water from ten wells by $\frac{1}{2}$ -inch pipe.

Alliance, O.—Chief Aungst has recommended the installation of a steamer connection on all fire hydrants to connect suction hose to hydrant.

Cooksville, O.—Members of the Special Committee of citizens recently appointed to confer with Council upon the water works question have decided to recommend a measure to grant a franchise to some private corporation to install a water works system as soon as possible; cost, \$30,000.

Huron, O.—Plans are being prepared by Engineer L. E. Chapin, Central Savings Bank Bldg., Canton, O., for a water works plant, for the Board of Public Works, Huron.—J. Hermes, Mayor.

London, O.—Water Superintendent Roberts reported to the Service Board that it would cost about \$600 to extend the water mains on Alten street and recommended that the property owners on the street petition the Board for the water and at the same time guarantee that there be the required number of users.

Niles, O.—Council will be asked for an appropriation of \$600 to provide for the extension of the water line to Heaton avenue and a water plug, for fire protection to the Harris Automatic Press Company and residents of Heaton avenue.

Hugo, Okla.—City has not yet let contract for constructing a system of water works.—W. T. Echols, City Clerk; Hiram Phillips, Engineer, St. Louis, Mo.

Mounds, Okla.—City is considering the construction of a water system.

Oklahoma City, Okla.—Citizens will vote April 6 on \$150,000 bonds for the extension of the water system.

Westville, Okla.—Citizens will vote March 6 on water works bond issue.

Condon, Ore.—City is considering the laying of about one mile of water pipe.

Altoona, Pa.—Citizens have approved the \$300,000 bond issue for the completion of the water system.

Bethlehem, Pa.—Citizens have voted to increase town's bonded indebtedness by \$175,000 for the erection of a water plant.

Cementon, Pa.—The Clear Springs Water Company will install 25 fire hydrants.

Clearfield, Pa.—The Clearfield Water Company is making a complete investigation at considerable expense of the feasibility of adding Lick Run to the present sources of supply; competent engineers and experts are at work on the several plans and routes and will report in due time; one plan provides for two dams, one on Lick Run, the other on Stone Run, both dams to flow into one pipe; other plan is for a larger dam on Lick below mouth of Stone; there are also two routes under consideration; one is for a tunnel through the hill to Moose Creek and attach to the line now in use from that stream; other is for a tunnel through from Lick Run to Wolf Run and attach to the present line in the East End.

Egypt, Pa.—City is considering installation of fire hydrants.

Punxsutawney, Pa.—The Punxsutawney Water Company is considering improvements to the plant, including new filter plant and remodeling reservoir.—Chas Ratz, Superintendent.

Saegertown, Pa.—Saegertown's movement in the direction of fire protection is assuming definite form and the indications are that the town will have a first-class service before very long; J. C. Dick, of the Dick Sand Co., of Franklin, and E. M. Bickerstaff, of St. Louis, have conferred with Pitt S. Davis, Frank Cottrell and others, of the Council, with a view to making a proposition for putting in a water plant.

Pawtucket, R. I.—A resolution has been passed appropriating \$70,000 for water works construction.—Mayor Kenyon.

Murdo, S. D.—The \$12,000 water works bonds voted by the city have been sold to a Chicago bond firm; sale of these bonds means that work will be commenced upon the installing of Murdo's complete water works system at an early date as soon as spring opens.

Binghampton, Tenn.—Citizens have voted \$25,000 bond issue for construction of water works, electric light and sewer systems; estimated total cost of water works, \$10,924.—Geo. B. Stewart, Mayor.

Greenville, Tenn.—Citizens are considering matter of the town owing its own water works and electric light plant; to secure these it will be necessary to bond the town to a considerable amount; a resolution has been passed instructing the Mayor and Aldermen to call an election for the purpose of voting on the proposition to issue bonds for this purpose.

Nashville, Tenn.—City Engineer Southgate has just completed a survey of a plan for supplying city water to that part of West Nashville known as New Town, according to the proposed construction of the new large water main; Engineer Southgate's report has been submitted to the Water Works Department and will soon be submitted to the Board of Public Works; extension of this main to the West End section is considered quite an important movement on the part of the Board and Water Works Department and represents considerably the largest job that has been undertaken under the special suburban water main fund.

Nashville, Tenn.—The Board of Public Works is considering ordinances appropriating \$10,000 to purchase sulphate of alumina for clarifying the water, \$2,000 to purchase fire hydrants and gate valves, \$15,000 to purchase and install new boiler and steam pipes at the pumping station and \$7,500 for water pipe across the Cumberland River bridge.

Childress, Tex.—Vice-President Keeler, of the Denver R. R., has conferred with Council in making plans to lay pipe to Lake Keeler, the large lake belonging to the company, two miles southwest of the city; while nothing definite was decided upon, an understanding was reached whereby the city will probably do the pumping for the railroad company, provided they may need water from this lake; their lake is on the same canyon in which the city lake will be constructed and they propose to let water out of their lake into the city lake; if the plan is carried through Childress will have about 600,000,000 gallons of storage water.

Dallas, Tex.—City is considering the calling of an election of \$500,000 bonds for the improvement of the water works.

Mart, Tex.—Citizens have voted \$50,000 water works bonds.

Temple, Tex.—City will soon receive bids for material for relocating the water mains on several business streets; cost, \$15,000.

Wolfe City, Tex.—Citizens have voted \$2,500 bonds for improvement of water works.

Fredericksburg, Va.—Council is considering an ordinance to provide for the advertisement for bids for a franchise to construct and operate a flume or conduit for the conveying of water under and across Princess Anne street and under and along Factory and across Main street.

Seattle, Wash.—City Engineer R. H. Thomson has estimated the cost of installing water mains in the following streets: West Fifty-eighth, \$3,650; West Fifty-sixth and North Forty-sixth, \$4,200.

Tacoma, Wash.—Preliminary steps have been taken by Council and the City Attorney has been authorized to begin condemnation proceedings to acquire ground on which to construct the new high service standpipe, popularly called the "Fletcher Heights" standpipe; a resolution has been adopted authorizing the Commissioner of Public Works to advertise for bids for the construction of the standpipe and the pipe line connecting it with Station C.—Dr. H. D. Brand, Chairman Council's Special Water Committee.

Clarksburg, W. Va.—The National Board of Fire Underwriters has recommended the following: That the dam at pumping station be raised one foot and a better style of gate be substituted and rip-rap

the west end; a 6-foot high dam with storage capacity of 45,000,000 gallons and another 7 foot high, with capacity of 55,000,000 gallons, equipped with suitable gates be erected; that steam pipe well arranged in duplicate be installed; to set additional hydrants, one on fire main, all with three hose outlets, 6-inch barrels, with clear waterway throughout of at least 20 square inches and 6-inch connection to main, equipped with gate between the two, distance between hydrants 250 and 350 feet, be set; that all 4-inch barrels be replaced by 6-inch gate valves to be set at maximum distance of 500 and 800 feet; that 4-inch mains be replaced with 6-inch and larger ones up to 10-inch, according to district, and dead ends eliminated; that two 24-inch and two 16-inch and six 12-inch mains be laid as reinforcements, and 12-inch mains to be cross-connected to the two fire mains below tanks; meters to be set, when filtration plant is installed; that a two-bay reservoir (covered, if necessary) of 10,000,000-gallon capacity—one bay to be built at once, the other in the near future—be connected to distributing system by a 16-inch supply in addition to the 12-inch mains, and later by a fourth main of suitable size along a different route; that all service connections to be no greater than 4-inch; if larger than 2-inch, to be gated, and if for fire protection, to be reserved only for that purpose.

Vancouver, B. C., Can.—Plans have been presented to the Civic Water Commission for the valves controlling the supply of water to and from the reservoir, and tenders for this work will be called for at a later date.—Engineer Burwell.

BIDS RECEIVED AND CONTRACTS AWARDED

Sacramento, Cal.—The contract for 8,400 feet of 6-inch cast-iron pipe has been awarded to the U. S. Pipe Company, of San Francisco, at \$33.90 per ton.—M. J. Desmond, City Clerk.

Elkhart, Ind.—Only one bid was received by the Board of Public Works on its third advertisement for supplying water to the city and citizens, it being submitted by the Elkhart Water Company and was a proposition for the extension for the franchise for 25 years from April 29 on new schedules; \$75,000 to \$100,000 extensions are promised.

Augusta, Kan.—The American Cast Iron Pipe and Foundry Company, Kansas City, Mo., has been awarded contract for furnishing 1,083 tons 4-inch and 2,151 tons 6-inch cast-iron pipe, at \$33.95; also for 9,560 pounds specials, at 3 cents, and 1,000 pounds lead, at 4½ cents; total, \$10,809.17; the Dimmick Pipe Company, Birmingham, Ala., bid \$11,209.42, and the U. S. C. I. Pipe Company, Chicago, Ill., \$10,922.62.

The Wichita Supply Company, Wichita, Kan., has been awarded contract for two 25-h.p. gas engines for \$1,675; other bidders were: International Harvester Company, Wichita, \$2,150; Olds Gas Engine Works, Kansas City, Mo., \$1,715; Bersinder Gas Engine Company, Bartles, Okla., \$1,560; Wichita Supply Company, Wichita, \$1,675; Fairbanks-Morse Company, Kansas City, Mo., \$1,680.

The English Iron Works, Kansas City, Mo., have been awarded contract for two pumps, 200 r.p.m., for \$1,618; the Dean Steam Pump Company, Kansas City, Mo., bid \$1,525, and the Platt Iron Works, Kansas City, Mo., \$1,675.

The Des Moines Bridge and Iron Company, Des Moines, Ia., has been awarded contract for constructing 50,000-gallon tank on 100-foot tower, for \$3,275, while the Chicago Bridge and Iron Company, Chicago, Ill., bid \$3,450.

The Western Valve Company, Kansas City, Mo., has been awarded contract for 33 Demint fire hydrants, at \$25.95, and for 17 4-inch valves, at \$7.60; 9 6-inch, \$13.60; 4 4-inch, F. & D., \$8.95; 2 6-inch, F. & D., \$15.25; 29 gate boxes, \$3.40; totals of bids for hydrants and valves: Ludlow Valve Company, Kansas City, Mo., \$1,225; English Tool and Supply Company, Kansas City, Mo., \$1,132; R. D. Wood & Co., Philadelphia, Pa., \$1,263.55; Bourbon B. & C. Works, \$1,266; Western Valve Company, Kansas City, Mo., \$1,227; J. B. Clow & Sons, Kansas City, Mo., \$1,300.

For laying pipe, etc., the Freeborn Engineering and Construction Company, Kansas City, Mo., has been awarded contract, at \$7,194.48, as follows: 9,852 feet 4-inch pipe, at 16 cents; 7,980 feet 6-inch, at 17½ cents; 3,708 feet 8-inch, 20 cents; setting 33 fire hydrants, \$110.88; setting 4-inch valves, \$14.56; 9 8-inch valves, \$12.60; 7 8-inch, \$10.50; erecting pumping station, \$1,688.30; rock excavation, \$281.25; Portland concrete, \$336; other bids received follow: J. J. Dunegan, Shenandoah, Ia., \$6,367; Joplin Electric and Supply Company, Joplin, Mo., \$7,582.88; Lund & Cunyan, Blackwell, Okla., \$7,012.75; Wm. Tinkel, Joliet, Ill., \$6,416.30; Squire

Electric Company, Kansas City, Mo., \$6,576.50; F. M. Clock, Savannah, Mo., \$7,500; Marshall Brothers, Las Animas, Col., \$13,655.60; Midland Supply Company, Kansas City, Mo., \$6,503.11; Kewanee Sanitary Supply Company, Kewanee, Ill., \$7,194.48.—Burnes & McDonnell, Kansas City, Mo., Engineers; Timothy Sexton, City Clerk.

Richmond, Ky.—Richmond Water & Light Company awarded contract to Mason Hanger & Company, of Richmond, for building reservoir.

Baltimore, Md.—On the recommendation of the Sewerage Commission the Board of Awards has awarded the contract for water tanks and towers for the disposal station on Back River to Horace E. Horton, of Chicago, at his bid of \$7,000.

Boston, Mass.—The Florence Iron Works, Florence, N. J., has been awarded contract by the Water Commissioner for 2,735 short tons, 3 to 30-inch cast-iron pipe, for \$64,700.50; J. H. McCafferty Company, city, for 33,000 pounds composition castings, Class 1, 2 and 3, for \$6,335; Lumsden & Van Stone Company, city, for 960,000 pounds cast-iron castings, Class 1 and 2 for \$26,160. The 3, 4, 6, 8, 10 and 12-inch pipe will cost \$23.30 per ton; 16 and 24-inch, \$23 per ton; 30-inch, \$23.60 per ton, and specials, \$50 per ton; total cost, \$64,700. Totals of other bids received: Warren Foundry & Machine Company, New York, N. Y., \$66,290; U. S. Cast Iron Pipe & Foundry Company, New York, N. Y., \$67,499, and Chas. Millar & Sons Company, Utica, N. Y., \$70,625.

New Ulm, Minn.—The following is the list of bids received by the city, Feb. 15, for constructing a reinforced concrete reservoir for the city water works; all bids were based on the same plans and specifications adopted and filed in the office of the City Clerk: Aug. Puhmann, city, \$12,338.60; Ealy G. Briggs, St. Paul, \$13,970; Welland & Stegemann, city, \$14,800; J. B. Nelson & Company, Mankato, \$15,696; W. D. Lovell, Minneapolis, \$16,463; John G. Gronau, city, \$16,470; Haglin & Stahr, Minneapolis, \$16,500; George W. Grant Construction Company, St. Paul, \$16,880; C. W. Noble Company, La Crosse, Wis., \$16,880; Otto Neitge, Mankato, \$16,995; Tappe & Reiser, city, \$16,999; Pastoret Lawrence Company, Duluth, \$17,393; F. Keute Company, city, \$17,952; Western Concrete Bridge Company, Chicago, Ill., \$18,445; Sterling Engineering & Construction Company, Milwaukee, Wis., \$19,500; W. C. Carr & Son, Crawfordsville, Ind., \$19,786; Cook Construction Company, Des Moines, Ia., \$19,940; Tanner Bros., Minneapolis, Minn., \$22,490. The contract was awarded to Aug. Puhman, the lowest bidder.—H. F. Blomquist, City Engineer.

St. Louis, Mo.—Contract for 500 tons, 8-inch, Class B, c. i. pipe for March delivery, has been awarded to the U. S. Cast Iron Pipe & Foundry Company at \$24.50 per ton, f. o. b. St. Louis.—J. R. Cullinane, Secretary and Manager West St. Louis Water Company.

New Brunswick, N. J.—The Water Board has awarded contract for supplying about 8,000 feet of 6 and 8-inch iron pipe and 1,200 feet of 20-inch pipe to M. J. Drummond & Company, New York, N. Y., at \$22.97 per ton.

North Arlington, N. J.—Council at a special meeting, Feb. 17, reconsidered its action of two weeks previous, when all the proposals for the work of constructing a water works system were rejected, and awarded the contract to Edward Sargent, of Kearny, who was the lowest bidder. Sargent's figure was \$20,885.55. When the bids were first considered, Council thought the proposals too high and rejected all of them in the belief that the borough could do the work cheaper. After investigating the officials came to the conclusion that the job could not be done for a less amount than Sargent had bid. Work of laying pipes will be started in a few weeks.

Paterson, N. J.—Twelve bids were received for cleaning and repairing a well on Main street, and John Sutcliffe was the lowest bidder, at \$189.

Manhasset, L. I., N. Y.—The Town Board, Feb. 16, again opened bids for the second time for supplying water for fire and sanitary purposes, and but one bid, that of the Thompson Land and Water Company, was received, and this was so far in excess of what other water districts are paying that the Town Board deemed it to the best interests of the water supply district to reject it; the bid was for \$80 per year per hydrant, on a basis of fifty hydrants and a ten-year contract; the price paid in the Port Washington and the Great Neck water supply districts is \$30 per year, and contracts for a term of five years have been entered into with the water companies furnishing the supply. Even this rate is considered high as compared with the price of hydrants in some other localities. About a year ago, the Nassau County Water Company filed an offer to supply the district at the rate of \$30 per year, but after a thorough canvass of the conditions, the com-

pany declined to sign a contract, and the deposit filed with the bid was declared forfeited. Manhasset people have about despaired of securing a water supply through any of the water companies, and it is now said an effort will be made to organize and capitalize a local company. The conditions in Manhasset are duplicated in Lakeville, where no bids have been received for furnishing a water supply to the district established several months ago, and it is believed that several of the well do people in that section could be interested in the forming of a company which would erect a plant powerful enough to supply both water districts.

Minot, N. D.—Bids for construction of new water works system were opened, February 4 as follows: G. W. Haggert, Fargo, pumping station complete, \$50,680; 100,000-gallon high tank, \$6,810; 200,000-gallon high tank, \$8,900; 200,000-gallon low tank, \$7,760; total, \$14,368. C. H. Perrett, Fargo, pumping station complete, \$48,100; 100,000-gallon high tank, \$6,810; 200,000-gallon high tank, \$8,845; 200,000-gallon low tank, \$7,680; total, \$115,225. James Kennedy, Fargo, pumping station complete, \$44,400; 100,000-gallon high tank, \$3,500; 200,000-gallon high tank, \$6,200; 200,000-gallon low tank, \$5,100; total, \$107,502. P. Lawrence Company, Duluth, Minn., pumping station complete, \$47,800; 100,000-gallon high tank, \$6,280; 200,000-gallon high tank, \$8,750; 200,000-gallon low tank, \$7,700; total, \$116,898. G. W. Kemper, city, pumping station complete, no bid; 100,000-gallon high tank, \$47,000; 200,000-gallon high tank, \$9,000; 200,000-gallon low tank, \$6,900; total, \$98,377. P. McDonald, Duluth, Minn., pumping station complete, \$47,200; 100,000-gallon high tank, \$6,100; 200,000-gallon high tank, \$8,600; 200,000-gallon low tank, \$7,400; total, \$165,000. James Kennedy, Fargo, was awarded contract.—E. S. Severance, City Engineer.

Beaver, Pa.—Council has awarded contract for improvements to the water works system to Geo. S. McFall, of Beaver Falls; the bid amounts to \$9,668.80 and the contract calls for the installation of a Warren gas engine for driving 1,000-gallon triplex pump, in addition to other improvements.

Saltsburg, Pa.—The contract for pumps and gas engine has been awarded to the N. C. Davidson Company, Pittsburgh, Pa., for cast-iron pipe to the Cast Iron Pipe & Foundry Company, Pittsburgh, and for fire hydrants to the Darling Pump Company, Wilkinsport, Pa.

Pawtucket, R. I.—Council Committee on Water, February 15, awarded a contract for water pipe to be furnished to the city during the coming year; there were five bidders, and the contract was awarded to Allen & Reed, of Providence, the lowest bidders. The price bid was \$23.06 per ton for regular and \$48 per ton for specials. The amount of the contract is approximately \$12,000. The bid of Allen & Reed is said to be the lowest that has been given to any city in New England.

Edgemont, S. D.—The Suter Mountain Bridge and Construction Company, Tecumseh, Neb., has been awarded a contract for constructing a water works for \$17,250.

Dallas, Tex.—The Board of Municipal Commissioners, February 10, received bids for 4,200 feet of 36 or 42-inch water main to be used in replacing the wooden conduit for a part of the distance between Record Crossing and Turtle Creek. The Dimmick Pipe Company, of Birmingham, bid \$29.54 per ton for each, delivered at Dallas. The United States Cast Iron Pipe and Foundry Company bid \$28.80. These were referred to Commissioner Sullivan and the Engineer for computation.

The following bids were opened, read and referred: United States Cast Iron Pipe and Foundry Company, 25 tons of water pipe supplies for the pumping station, \$58 for regulation bell and spigot, \$68 for double spigot and flange; Dimmick Pipe Company, 6 tons of hubs at \$20 a ton, hub specials at 3 cents a pound; 3½ cents for flange work; R. D. Wood & Company, Philadelphia, flanges at \$4.10 per hundred weight, bells and spigots at \$3 per hundred weight, bell endgate valves of 4-inch size at \$7.80 each, 6-inch at \$13 each, flange gate valves of 2½ inches at \$180 each, if spurred add \$25 each, if 4-inch by pass add \$60 each, not less than 25 tons to be ordered.

The Board of Municipal Commissioners has awarded contract to C. W. Olcott, city, at \$8,935.47 for laying four miles of 18 and 16-inch water mains from new pumping station to and through part of East Dallas; contract calls for flushing and for furnishing all materials.

LIGHTING AND POWER

Birmingham, Ala.—Louis Pflitz is promoting a company which has decided to build a plant if the people of the city want competition against the Birmingham Railway, Light and Power Company.

Brewton, Ala.—The city is considering the installation of an engine and dynamo at the water and light plant.

Houma, Ala.—The Houma Board of Aldermen has selected Anderson Offutt, of New Orleans, La., to build an electric light plant, for which plans have been drawn.

Bentonville, Ark.—Arkansas Co-operative Construction Company will construct power house.—Mayor Morris, President.

Colton, Cal.—Council is considering better lighting for the city; Earl Crilly, City Electrician, has been instructed to draw up plans with that end in view.

Pasadena, Cal.—Citizens have voted \$150,000 bonds for completion of city electric lighting plant; bids will be advertised for lighting poles and copper wire in large lots and for an 800-kw. generator.—Manager Koiner.

Redlands, Cal.—A transformer house will be erected by the Domestic Water Company at the corner of Crescent avenue and Reservoir street for the protection of the power house, used to operate the pumps at the company's wells.

Bridgeport, Conn.—The United Illuminating Company of New Haven and Bridgeport has perfected arrangements for taking over the charter of the Fairfield Power and Lighting Company and will install an electric lighting system in the town of Fairfield; the Fairfield company has a valuable franchise which has never been utilized.

Hartford, Conn.—The Incorporations Committee is considering the Connecticut River Company's proposal to dam the Connecticut just north of Windsor Locks, build an electric plant, and to deal in water power, electricity and its products; it is proposed to construct a new canal so as not to obstruct navigation; by the plans of the company an aggregate of 10,000 horsepower will be developed from power that is now going to waste; plans will not interfere with navigation.

Windsor Locks, Conn.—The Connecticut River Company of New Haven has planned to build a dam across the Connecticut River between Windsor Locks and Enfield for the utilization of 10,000 horsepower; an additional canal will be constructed; company proposes to generate electric power to be sold for industrial purposes.—J. K. Punderford, New Haven, General Manager.

Wilmington, Del.—The Street and Water Department has granted the Wilmington Light, Heat and Power Company and the Delaware Transmission Company an extension of time in which to fulfill their obligations to the city for their franchise.

Jacksonville, Fla.—The Jacksonville Gas Company has purchased a tract of 5½ acres of land in the western portion of the city near the Enterprise Planing Mill from Mrs. Fannie Hirschman and will at some time in the near future erect a modern gas plant of large capacity, with all modern improvements.

St. Petersburg, Fla.—Charles W. Hunter, President and General Manager and chief owner of the Citizens' Gas Plant, of Ocala, was here recently looking over the ground, preparatory to placing a gas plant within the city; Mr. Hunter has estimated that it will require a \$50,000 plant to furnish the gas needs; installation of the mains and plant will not be effected until next summer.

Ashburn, Ga.—Citizens of Ashburn have voted \$55,000 of electric light, water works and school bonds.

Hawkinsville, Ga.—W. O. Jelks, of Hawkinsville, and G. E. Clower, both of University of Alabama, Auburn, Ala., have been selected to prepare plans and specifications for electric light plant; \$15,000 bonds have been voted.—C. W. Harris, City Clerk.

White Bird, Ida.—B. Q. Davis has purchased the White Bird Electric Light and Power Plant and will build a new power house and install a water wheel; also about one mile of new flume.

Bowen, Ill.—City has granted to Jas. Bennett a franchise permitting the installing of a lighting plant and work will begin in the early spring; a first-class plant will be installed, and it is proposed to place 21 lights on the streets as a starter and the majority of the business houses will be equipped with the lights.

Chicago, Ill.—The Chicago, Blue Island & Joliet Traction Company will soon let contracts for a 500-kw. rotary converter and construction of a sub-station.—W. H. Conrad, First National Bank Bldg., General Manager.

Chicago, Ill.—Bids will be received for furnishing and installing for the Department of Electricity electric light cable in accordance with specifications on file at the above office as follows: 1,520 feet 3-conductor, paper-insulated, No. 00 lead-incased cable; 150 feet single-conductor, cambric-insulated, No. 00 lead-incased cable.—Wm. Carroll, City Electrician, 76 Fifth avenue.

Fort Wayne, Ind.—The members of the Board of Public Works are engaged in locating ten new street lights and may also

change some of the lights already up to conform to specifications.

Louisville, Ky.—Pike Campbell, Manager of the Fifth Avenue Hotel, will ask the General Council to create a franchise to enable him to light his hotel and to supply lights to a few of the business places in the immediate vicinity of the hotel; he will not ask that his conduits cross any street, but only the abutting alley near the hotel property on Fifth street, between Green and Walnut.

Bangor, Me.—Plans have been under consideration by the Bangor Railway & Electric Company for some time past for the building of a new dam during the coming summer to take the place of the old wooden dam that is now doing service at the power station in Veazie; new dam will be of concrete and will cost between \$75,000 and \$100,000.

Detroit, Mich.—Frank T. Mistersky, General Manager of the municipal electric light plant, has prepared estimates amounting to \$348,248; these will be submitted to Council; he recommends the purchase of equipment for 12-75 flame lamps and changing over the old style Brush lamp; estimates for extensions and improvements include the erection of a new sub-station in the northwestern part of the city at a cost of \$24,403; conduits on several streets, \$21,039; new lamp locations with necessary equipment, \$21,419; installation of 400 additional metallic flame arc lamps, \$48,000; changing arc lamp system, \$47,683; installation of new boilers with equipment, \$13,366.

Houghton, Mich.—Albert Langenbach, controlling stockholder in the local gas corporation, has announced that the company would rebuild its plant in South Range.

Manistee, Mich.—The Manistee County Electric Company has been organized and will construct a power dam over the Manistee River at High Bridge to furnish 10,000 horsepower.—E. N. Salling, President.

Minneapolis, Minn.—The Linden Hills Improvement Association is considering the erection of a lighting plant; the General Electric Company has refused to extend its service into their district.—Truman J. Hibbard.

Grenada, Miss.—Citizens are considering a bond issue for the better equipping of the light and water plant, for extending the sewer mains to suburban points and for building a new City Hall.

Kansas City, Mo.—H. C. Folwer, President of the Fidelity Trust Company, has submitted to the Board of Public Works plans for an ornamental system of lights around the Fidelity Bldg.; company proposes to bear expense of erecting and maintaining lampposts; the eight posts and equipment alone will cost \$1,500.

Kansas City, Mo.—Merchants on Eighteenth street near Prospect have decided to illuminate the space in front of their stores with gas lights.

Maryville, Mo.—The Rockford Electric Light Company will at once rebuild the plant destroyed by fire.—James L. Clark, Manager.

Irvington, N. J.—The Lighting Committee is considering the advisability of establishing a municipal lighting plant; contract with the Public Service Corporation will expire January 1 next.

Ocean City, N. J.—The Ocean City Gas Company will spend thousands of dollars in enlarging its plant, installing new machinery and extending its mains in different sections of the city; work is to be completed before the beginning of the summer season.

Paterson, N. J.—Commissioner Cooke has recommended that, as the contract for city lighting would expire in June, it would be a good idea to have a committee appointed, of which the City Council and the City Engineer were a part, to draw up specifications on which bids could be solicited.

Newburg, N. Y.—The Merchants' Association has selected G. L. Wittmann to make an investigation as to the probable cost of establishing an electric light plant.

Syracuse, N. Y.—Bids will be received by R. S. M. Mitchell, Kirk Bldg., Consulting Engineer, for the following equipment: Four gas producer units, with a rating of 250-h.p. each; two 500-h.p. gas engines for direct connection to generators; two 300-kw. generators, direct-connected type; two 200-ton direct motor-driven vertical single-acting refrigerating machines; one circular or spiral conveyor; seven freight and one passenger elevators and motor-driven ventilating apparatus.

Canal Dover, O.—A franchise has been granted to S. J. Gerber and Edwin Schweitzer by the Council of Sugar Creek village, Shanesville village and Baltic village and Sugar Creek township Trustees, for the erection and maintenance of an electric light plant.

Cleveland, O.—The County Commissioners and members of the County Buildings

Commission are considering whether it would be more economical to purchase heat, light and power for the new county buildings from private corporations or invest \$350,000 in a plant on the river front; several private companies are expected to present bids for doing the work.

Columbus, O.—J. Y. Bassell, Secretary of the Board of Trade, has recommended that arc lights be installed on East Broad street.

Toledo, O.—Council has decided to improve by lighting with electric light Daniels avenue and Gorden street, Bell avenue and Dorr street; Macomber, Hawthorne and Freeman streets.—J. M. Babcock, Clerk.

Cordell, Okla.—Council has granted a franchise for electric light plant to L. L. Landry, H. H. Sherman and J. F. Amis, copartners and residents of Alva, Okla.; ordinance granting the franchise has been signed.

Beaver Falls, Pa.—Eastern capitalists have secured an option on the holdings of the Beaver Falls Water Power Company; a heating, and power plant will be built and light furnished to Beaver Falls and vicinity.

Dale, Pa.—Town Council has granted the Manufacturers Water Company the right to lay and maintain conduits for the conveyance of water in the town.—D. L. Wilson, Clerk.

Philadelphia, Pa.—Plans for better lighting facilities for Arch, Market, Chestnut and Walnut streets have been presented by Chief McLaughlin, of the Electrical Bureau, to Mayor Reyburn and Public Safety Director Clay; the Chief has had elaborate designs drawn for Market street, which will do away with the trolley wire poles on the curb, combining the light and trolley wire supports between the double tracks on the street; cost, \$35,000 additional each year.

Seneca, S. C.—A deal has been closed by which a party of Spartanburg capitalists, headed by A. B. Grosce, acquired the valuable water power on Change Creek, about 10 miles west of Seneca, and will develop it at once; Engineer's report shows that a minimum of 1,300 horsepower can be obtained with a short dam 42 feet high; Westminster and Walhalla, three and six miles respectively distant from the site, are reported to have contracted for over 1,000 horsepower.

Binghampton, Tenn.—Citizens have voted an issue of \$25,000 bonds for construction of electric light, water works and sewer systems; estimated total cost of electric light plant, \$5,900.—George B. Stewart, Mayor.

Etnowah, Tenn.—C. C. Kinzel, Etnowah, Tenn., is considering the installation of an electric light plant; capacity, 20 16-candlepower lights or its equivalent in gas plant.

Nashville, Tenn.—The Board of Public Works is considering an ordinance appropriating \$6,000 to purchase arc equipment.

Fort Worth, Tex.—The City Commission has granted the Fort Worth Light and Power Company a franchise for 30 years which permits it to pipe natural or artificial gas through the streets of the city.

Fort Worth, Tex.—The Clear Fork of the Trinity River will soon be examined by a competent engineer for the purpose of ascertaining if the fall is sufficient to produce water power for an electric water power plant; should the report of the engineer be favorable, capital is ready to take the matter up.

Granbury, Tex.—The Frisco Ice & Light Company will purchase a 25 or 30-kw, 1,100-volt 60-cycle single-phase electric generator.

San Angelo, Tex.—The Business Club is considering the advisability of making a test for natural gas, either in or near the city, as a means of solving the fuel proposition for all time to come.

Ogden, Utah.—A modern gas plant, one that will place Ogden on a level with all other modern cities, is the latest improvement promised for this community; ever since its installation at the head of the local office of the Utah Light and Railway company, Manager D. Decker has been hard at work investigating and planning for a new gas plant for the city, to be operated by the Utah Light and Railway Company; result of his months of hard work will go to the main office of the company at Salt Lake City in the form of an itemized report with recommendations.

Alexandria, Va.—The plant of the Alexandria Electric Light Company will shortly be transferred to a number of local people; plant is owned by a number of Pennsylvania people; proposed purchasers have made arrangements to increase the present capacity of the plant and also to make other improvements.

Alta Vista, Va.—Alta Vista Land and Improvement Company has included in its charter privileges development of water power for lighting and heat.—T. V. Elsom, President.

Norton, Va.—R. A. Morison of Big Stone Gap, was the sole bidder, February 15, on the 30-year electric light franchise advertised by the Town Council; his bid was \$275 cash, or \$500 in light; bid has not yet been accepted, and it is likely the franchise will be revised and a new bid opened before a sale is made.

Scottsville, Va.—J. E. Slater, of Ermont, will put in an acetylene gas plant for lighting the streets.

Tacoma, Wash.—The County Commissioners are making arrangements for a 50-h.p. steam engine with a 75-h.p. boiler to supply the motive power; plant will be installed either near Kapowsin or in the Nisqually canyon.

Martinsburg, W. Va.—The Interstate Natural Gas Company has filed with Council its application for a franchise enabling it to construct and operate through the streets and alleys its mains and pipe lines to enable it to carry on the business of distributing to its customers gas for lighting, heating and other purposes.

Peterboro, Ont., Can.—Preliminary plans have been prepared for new dam, power house and pumping plant.—S. R. Armstrong, City Clerk.

BIDS RECEIVED AND CONTRACTS AWARDED

Rexburg, Idaho.—Council received bids on street lighting, Feb. 12; the Rexburg Light & Power Company offered to install 2,000 candle arc lights at \$5 each per month, or twelve 32-candle power lights, per block, for \$4.50 per month. The Idaho Falls Power & Transportation Company's bid was \$6.50 for the same arc light. Final action was deferred temporarily.

Topeka, Kan.—Three Councilmen, Tandy, Jordan and Blakely, appointed by Mayor Green, opened bids for electric light plant apparatus, Feb. 9; the Columbian Electric Company, of St. Joseph, Mo., and the Westinghouse Electrical Manufacturing Company, of Pittsburgh, Pa., were the only two bidders for the lamps. Their bids were long and complicated and they have been referred back to the Committee on Public Improvements in connection with the Electric Light Commissioners.

Calhoun, Ky.—Calhoun, the county seat of McLean County, is to be lighted by electricity within a few months; the Town Board has entered a contract with an Owensboro company for the installing of a large dynamo and wiring the streets; the power will probably be furnished by water, as the dam across Green River at that place will afford fine and cheap power for manufacturing plants.

Louisville, Ky.—The Board of Public Safety has awarded a contract for the installation of a new boiler at the City Hospital to C. J. Walton & Son for \$1,431.30; there were four bids ranging from this price to \$1,697.

Baltimore, Md.—The McCay Engineering Company and the Eugene Rosenfeld Company has received the contracts for installing an electric lighting system at the swimming pool in Patterson Park.

Boston, Mass.—The Edison Electric Illuminating Company, city, has let contract to the General Electric Company, Schenectady, N. Y., for two 18,000-horsepower steam turbines to replace the two 7,500-horsepower turbines now in operation.—W. H. Atkins, 39 Boylston street, General Superintendent.

New Bedford, Mass.—The Street Lights Committee, Feb. 15, received bids for furnishing the city with 75 iron gas lamp posts; the Fairhaven Iron Foundry Company offered to furnish them at 2 3-4 cents a pound; and the Acushnet Iron Company at 3 cents a pound; the Acushnet Company stated that it was prepared to meet all the requirements in the specifications, except that as to the hours of labor, its men working nine hours a day. The contract was awarded to the Fairhaven Company.

Minneapolis, Minn.—The L. S. Donaldson Company has awarded the contract for boilers for the central power plant for the Donaldson buildings to the Fairbanks-Morse Company, of Chicago, Ill.; the contract calls for eight boilers, at a cost of \$30,000.

Philipsburg, Mont.—Council has awarded to Bowens Brothers a contract for lighting the streets, alleys and public buildings for a period of three years; the plant of the Philipsburg Granite Electric Light Company, which has been closed down for nearly two years, has been leased to Bowens Brothers and a new gas engine is being installed in place of the old steam engine, and the managers expect to be prepared to furnish lights by March 1. The contract calls for 10 arc lights of 200-candle power each and six incandescent lights, three of 24-candle power and three of 16-candle power each.

Belleville, N. J.—The contract with the Public Service Corporation for the lighting of the streets of Belleville, which had been

pending for several months, was signed by the Township Committee, Feb. 16; this action was taken in accordance with a resolution passed some weeks ago, which provided for the signing, if no objections were filed by citizens. No objections were made. The contract is for five years, and under it the township is to pay \$12 for each street light for the first year and \$15 a year thereafter. The price the township has been paying is \$12.

New York, N. Y.—Bids were received as follows, Feb. 9, by John F. Ahearn, President Borough of Manhattan, for the completion of the electric lighting and power wiring system at the City Hall Building: Fidelity Electric Contracting Co., 16 East 23d street, \$6,200; Condon & De Young, \$11,100; Lord Electric Co., \$9,460; T. F. Jackson, \$6,865; E. J. Duggan, \$6,980; Commercial Construction Co., \$11,835.

Rochester, N. Y.—The Rochester Railway & Light Co. has let a contract to the Westinghouse Electric & Manufacturing Company for three 1,000-kilowatt, 60,000-volt, stepdown transformers to be placed in Station No. 33 in Elmwood avenue; these transformers will be used to reduce the voltage from Niagara Falls from 66,000 to 550 to be transmitted by underground cable to operate the street car lines in the city. The station has an output of about 6,000 kilowatt. Also to the General Electric Co., Schenectady, N. Y., for a 136-ton 3,000-horsepower, frequency changer; the set consists of two 3,000-horsepower generators, one of 25-cycle and the other of 60-cycle, the function of the machine is reversible, one unit serving as a generator and the opposite unit as a motor.—R. M. Searle, Rochester, is General Manager.

Seneca, S. C.—Fourteen bids were opened by the Board of Commissioners of Public Works for the erection of the electric lighting plant, and the Piedmont Electric Company, of Anderson, being the lowest bidder was awarded the contract, work to begin in ten days from award and to be completed in 90 working days; the contract calls for the delivery and erection complete of the plant, ten days' operation and guarantee by contractor; the town will build its own power house, which will be erected on the lot just south of the freight depot and adjoining the railroad right of way. The generator will be a Westinghouse three-phase, 60-cycle 2,300-volt machine, the engine a Pittsburgh 95-horsepower, with 115-horsepower boiler. Twenty arc lights and 18 incandescent street lights will compose the street system for the present.

Venus, Tex.—Council has contracted with the Venus Light and Water Company for the erection of a street light on each of the four corners to the Public Square; the lights will be installed immediately, and will be of 100-candle power.

Crivitz, Wis.—Alexander & William McGaugh have been awarded contract to construct a dam at the high falls on the Peshtigo River for the Northern Hydro-Electric Power Co., of Green Bay; the dam will be situated 14 miles west of Ellis Junction.—D. W. Mead, Madison, Chief Engineer.

FIRE EQUIPMENT

Decatur, Ala.—City is considering the purchase of an auto truck and other apparatus.

Los Angeles, Cal.—Architects Hudson & Munsell are preparing plans for a fire engine house.

Ontario, Cal.—The Board of Trustees has been asked for some \$400 worth of extra fire-fighting apparatus; after some discussion \$150 was voted to that end.

San Diego, Cal.—City will receive bids for an aerial truck; 8,500 feet cotton, rubber-lined hose; a building at Fifth and Palm streets; extensive repairs to old buildings.

San Mateo, Cal.—The Board of Trade Committees have recommended the proposed \$120,000 bond issue for public improvements, including improvements to the Fire Department.

Meriden, Conn.—Citizens are urging the purchase of an auto chemical engine and fully equipped hook and ladder truck.

Milton, Fla.—A Committee has been appointed to purchase a chemical engine and a hook and ladder truck.

Athens, Ga.—Chief G. W. McDorman, of the Fire Department, asked that two men be added to the department, that a new hose wagon be purchased, also 1,000 feet of hose and other small equipment; question of a motor hose wagon was also broached, as it is practically certain that such a wagon can be maintained more economically than a wagon pulled by horses.

Caldwell, Ida.—Citizens are considering the purchase of additional apparatus.—City Clerk Sherb.

Clinton, Ill.—City will purchase 600 additional feet of hose and a slanted twin coupling.—Fire Chief Smith.

Decatur, Ind.—City is considering purchase of an auto truck.

Evansville, Ind.—City will install a new

and modern fire alarm system; cost, \$10,000.—Fire Chief Dunlevy.

South Bend, Ind.—Fire Chief Grant visited the auto show in Chicago to look over automobile fire engines.

Mt. Vernon, Ia.—A Committee has been appointed to investigate the different makes of hook and ladder outfits and purchase same.

Coffeyville, Kan.—Citizens are considering the purchase of an engine.

Dunbar, La.—Citizens are urging the purchase of fire apparatus.

Baltimore, Md.—Bids will be received February 24, 11 a. m., for eight combination chemical engines and hose wagons and 20,000 feet fabric fire hose, rubber lined, 2½-inch internal diameter, fitted with Baltimore standard couplings, Higbee thread, each 50-foot section to weigh, with couplings, not less than 60 pounds.—P. M. Wilkinson, Secretary Board of Awards.

Helena, Md.—Town is considering the procuring of better fire protection.

Bridgewater, Mass.—Citizens are urging the installation of a hose reel and hose in the vicinity of High and Centre streets.

Lowell, Mass.—Chief Hosmer will make recommendations to the Committee on Fire Department as to the equipment needed for the new station in Centralville.

Pittsfield, Mass.—The Fire Department Committee of Council has under consideration the purchase of much new apparatus for the department; a new engine will be bought.—Councilman Colt.

Quincy, Mass.—The Finance Committee has reported an appropriation of \$7,850 for a new fire engine and the rebuilding of the old engine.

Springfield, Mass.—The Board of Fire Engineers has voted to recommend an appropriation of \$5,000 to be used for the purchase of an automobile for the Fire Department.

Taunton, Mass.—Council has postponed action on \$4,800 appropriation for a new steamer for the Bay street fire station.

Westfield, Mass.—Citizens are urging the purchase of auto apparatus.

Atlantic City, N. J.—Members of the Council have decided to purchase a swift automobile for Chief Black of the Fire Department.

Hackensack, N. J.—Citizens will organize and equip a new company in the heights section.—Chief Sachtleben.

Long Branch, N. J.—Chairman Stratton, of the Fire and Water Committee, has reported that his Committee had carefully considered the supplies asked for by Chief William Moore and would recommend that the following be purchased: 1,000 feet of Maltese Cross 2½-inch hose, 30 pairs rubber boots, 30 rubber coats, one service badge for Chief Engineer, two service badges for First and Second Assistant Chiefs, fire alarm box placed at Cloughly's mill, indicator at Branchport fire house, 24 hose couplings 2½-inch, 24 hose rings, repair wheels of Byron engine, repair brake and spring of West End hose wagon, and one white rubber coat for Second Assistant Chief.

Canandaigua, N. Y.—Citizens have voted \$1,000 for the purchase of new hose.

Far Rockaway, N. Y.—Citizens are urging the installation of additional fire apparatus.

Hirom, N. Y.—Citizens are considering the formation of a fire company.—Herbert W. Jones.

Phelps, N. Y.—The Village Board of Trustees has issued a call for Fire Department quarters and a Village Hall; lot must be at least 40x60; all bids must be in February 27.

Port Jervis, N. Y.—The Fire Department is considering the installation of a new fire alarm system.—E. J. Harding, Chief Engineer.

Rochester, N. Y.—The National Board of Fire Underwriters has recommended the establishment of a hose and ladder company at Exchange and Court streets and a ladder company at Webster and Parsillo avenue; the replacing of Engine 16 by a modern second size engine, and the procuring of an automobile salvage wagon; also that all hose wagons in the mercantile section carry 500 feet of hose besides a small extension ladder.

Rochester, N. Y.—The residents of the first district of the town of Brighton, embracing the section popularly known as the Holland Settlement, are to take up the question of fire protection, which has been a source of dissatisfaction for years; taxpayers will vote February 25 on a \$1,000 expenditure to purchase hose for fire purposes.

Sag Harbor, N. Y.—Town is considering need of a steam fire engine.—Fire Chief Kiernan.

Schenectady, N. Y.—Bids will be received February 24 for 2,000 feet of fire hose.—Harry Miller, Secretary Council.

Troy, N. Y.—Instead of rebuilding the Hope apparatus, Commissioner of Public Safety Mann has been urged to purchase a \$4,000 automobile gasoline engine.

Yonkers, N. Y.—Nefferham Heights citizens are urging the erection of a fire station and the installation of apparatus.

Towner, N. D.—A volunteer fire company will be organized.

Alliance, O.—Fire Chief Aungst has recommended the purchase of an auto engine.

Dayton, O.—The City Council Committee has decided to recommend the passage of the ordinance calling for a bond issue of \$20,000 for the erection of a new engine house in Dayton View.

Hamilton, O.—The Fire Department will be reorganized and a central station will be erected and equipped in the heart of the business district.

Kingsville, O.—Citizens are urging the need of better fire protection.

Stratford, O.—Town is considering purchase of 500 feet additional hose and the erection of a new hose house.

Youngstown, O.—Chief W. H. Loller will soon receive bids for an automobile fire engine.

Portland, Ore.—Another application has been filed with the City Council by the National Automatic Fire Alarm Company for a franchise to install and operate an auxiliary and automatic fire alarm system in the city.

Manchester, Pa.—Council has appropriated \$600 to purchase a site for a fire engine house.—E. D. Jacobs, Chief Burgess.

McAadoo, Pa.—Burgess McGeehan and P. V. Dougherty, representing the Keystone Fire Company, have recommended the furnishing of some necessary supplies and equipments; requisition was as follows: 300 feet of hose, three wrenches for plugs, one hose wrench, one box of grease, one gong for carriage, one bell for small carriage, six lanterns, two 3½-inch tips for nozzle, two wrenches for carts, one handle for rope reel, six gum coats, one oil can, one gallon of oil, 12 small glasses, 6x6, two pinch bars and five pikes and hooks.

Springdale, Pa.—Citizens will organize a volunteer fire department and procure an engine.

Pawtuxet, R. I.—The Pawtuxet Volunteer Fire Company has received an encouraging report from the Committee on installation of a fire alarm system in that district, the Chairman stating, at the last meeting of the company, that \$500 has already been subscribed for the purpose; Committee has been given full power to go ahead with the work and put in the system as soon as possible; Bay View Hose Company has appointed a Committee, consisting of D. Mahoney, Benjamin Martin and Henry Ide, to confer with the Town Council regarding several articles that the company needs in the way of equipment; the Ladies' Auxiliary of the Volunteer Fire Company of Pawtuxet has voted to take an active part in the raising of funds for the installation of the fire alarm service in that district.

Aberdeen, S. D.—Plans are being prepared for a two-story \$10,000 fire hall.—City Engineer D. C. Washburn.

Canastota, S. D.—Citizens are considering plans for better fire protection.

Nashville, Tenn.—The Board of Public Works is considering an ordinance appropriating \$2,500 to purchase fire hose.

Granbury, Tex.—Council has voted \$800 for additional fire fighting apparatus; it has been decided that a chemical engine and hook and ladder truck shall be purchased.

Lockhart, Tex.—Thomas Connolly and Vess Clark have been appointed to advertise for plans and specifications for fire station and opera house to be erected by Fire Department; Committee will also accept bids.

Roswell, Tex.—Fire Chief Whitman has recommended the purchase of 1,000 feet of hose and a chemical wagon.

Kettle Falls, Wash.—Town will purchase new fire apparatus and organize a hose and hook and ladder company.—Chief J. C. Wilson.

Viroqua, Wis.—Town will install a fire alarm system.

BIDS RECEIVED AND CONTRACTS AWARDED

Union Hill, N. J.—Two remarkable things came to light when bids for a combination hose truck for Columbia Hose Company were received by the Union Hill Council; three bids were presented, two were alike only that the figures were set forth in different ways; the prices were in those two cases the same to a cent. The third bid was over \$1,000 lower than either of the other two. The bids were: Combination Ladder Company, truck with rubber tires, \$2,000; with steel tires, \$1,850; American La France Company, truck, \$1,850; with rubber tires, \$150 more; James Boyd Bros., truck, \$947; without rubber tires, \$802.41.

ELECTRIC RAILWAYS

Decatur, Ala.—W. H. Morris, Russellville, is promoting a plan to build an interurban electric railway from Decatur, via Moulton, to Russellville; distance, 45 miles.

Huntsville, Ala.—The Nashville, Fayetteville & Birmingham Railway has been chartered to build an electric railway to connect the cities named; capital stock, \$10,000.—John C. Dremer, President; James A. Moores, Secretary.

Little Rock, Ark.—The West Memphis Belt Line & Terminal Railroad has been incorporated to construct an electric railway to circle West Memphis from Bridge Junction to Hopefield; length, 12.14 miles.—Edwin Boysden, Wheatley; R. L. Mixon, H. F. Roleson, W. E. Ayers, Hugh Mixon, J. B. Badgett, E. E. Badgett and H. M. Pharr, Marianna; A. B. Shafer and L. P. Berry, Jr., Marion, Incorporators.

Lodi, Cal.—The Central California Traction Company is considering the extension of its line from Lodi to Woodbridge.—F. E. Manzer, Chief Engineer.

National City, Cal.—The Board of City Trustees have granted the San Diego Southern Railway Company a franchise to operate its lines over the city streets and private right-of-way within the corporate limits of National City.—B. M. Warner, General Superintendent.

Sacramento, Cal.—Harry Thorp, Vice-president of Weinstock, Lubin & Co., has announced that the actual construction work on the Sacramento and Lake Tahoe Railway will probably begin by May 1; road has now been successfully financed and there is nothing to stop it.

Santa Barbara, Cal.—The Santa Barbara Consolidated Railway Company has been granted a franchise to construct tracks on Bath street.

Denver, Col.—The Denver, Colorado Springs & Pueblo Interurban Electric Railroad has been incorporated to build an electric railway from Denver through Colorado Springs to Pueblo; capital stock, \$1,500,000; surveys are now being made for the proposed line and work will be started early in the spring on the first division, a distance of 74 miles; as soon as the first division is completed and equipped it is the intention of the company to start construction on the second division from Colorado Springs to Pueblo, a distance of 45 miles.—L. M. Pfeiffer, William S. Binford, F. C. Lewis, Charles Lederer and A. E. Van Deusen, Incorporators.

Washington, D. C.—A report has been received from an American consular officer in Latin America, in which he states that an official of a local railway company desires to receive catalogues and price lists of all kinds of railway and river steamboat material and supplies, including machine tools, rails, cars, etc.—Address No. 3071, Bureau of Manufactures.

Washington, D. C.—Consul-General Richard Guenther, of Frankfort, Germany, reports that owing to the low interest rates that for some months past have been ruling many of the States, cities are making use of the opportunity by issuing loans in order to raise funds to pay for needed improvements, such as railroads, electric trams, power stations, telephones, and public works of all kinds, and for some of these undertakings foreign bids might prove successful. A narrow-gauge railroad track, about 14 miles in length and estimated to cost \$506,000, is to be built between Grossenlueder and Hanswurz, in the Frankfort-on-the-Main consular district. The Councils of the town of Neuss have also voted for the construction of an electric railroad to connect that place with Grimmlingenhausen and Neuserfurth.—Address No. 3083, Bureau of Manufactures.

Pensacola, Fla.—Council has granted L. D. Green the right to construct a spur track on East Wright street.

Athens, Ga.—The Athens Electric Railway has decided to double track a large portion of its line on Prince avenue and to build three blocks of new line in order to perfect its street railway system; work depends upon the city paving a portion of Prince avenue with vitrified brick.

Charleston, Ill.—The Charleston, Westfield, Marshall & Terre Haute Electric Railway will build an electric railway between Charleston, Westfield, Marshall and Terre Haute; capital stock, \$5,000.—W. R. Patton, President; Seymour Hurst, Marshall, Secretary.

Sandwich, Ill.—Council has granted a franchise to the De Kalb Midland Railway, which will build an electric railway from Somonauk through Sandwich and Waterman to De Kalb; also to build a spur from Plano to Yorkville.

Somerset, Ill.—The Somerset St. Ry. Co. has been chartered to build a railway to be operated either by electricity or gasoline, in Somerset County; length 11 miles; capital, \$60,000.—J. A. Berkey, President; John C. Lowry, Secretary.

Springfield, Ill.—The Springfield, Beards-

town & Quincy Railway Company will construct an electric railway from Springfield to Quincy; capital stock, \$150,000. H. H. Colby, President; R. E. Bone, Secretary and Treasurer, of Pittsburg; G. L. Harnesberger, of Springfield, Chief Engineer.

Urbana, Ill.—Council has granted the Chicago, Kankakee & Champaign Electric Railway a 50-year franchise for an electric railway from the north end of Market street to the south end.

Peru, Ind.—Company will soon begin and plans made to construct a new interurban line from Peru to Rochester.

Terre Haute, Ind.—The Terre Haute & Southwestern Railway has been incorporated to construct an electric railway from Terre Haute through Vigo and Sullivan Counties; capital stock, \$50,000.—H. P. Taussig, H. C. Pugh, R. G. Watson, Robert Herkimer, S. C. McKean, H. B. Beerman and Charles Minshall, Incorporators.

Winona Lake, Ind.—The Winona Interurban Railway will begin work on the line from Warsaw to Fort Wayne, by way of Columbia City, as soon as the Peru extension is completed; estimated cost, \$30,000 per mile.

Clinton, Ia.—The Central Railway Company of Iowa will begin construction work soon on its proposed line which will connect Clinton, Elvira, Bryant, Goose Lake, Charlotte, Delmar, Maquoketa, Hurstville, Dugan, Garry, Owen, Cascade, Rockdale and Dubuque; length, 83 miles.—Thos. J. Wilcox, Clinton, President and General Manager; D. L. Wilcox, Clinton, Secretary.

Creston, Ia.—The Iowa & Southwestern Railway has been incorporated to construct an electric railway between Clarinda, College Springs and Blanchard; distance, 18 miles; capital stock, \$300,000.—William S. Farquar, College Springs, President; A. F. Galloway, Clarinda, Secretary.

Union, Ia.—Town has granted a franchise to the Union Electric Light Company.

Lawrence, Kan.—Albert Emanuel and W. R. Sullivan, Dayton, O., are promoting the construction of a street railway.

Pittsburg, Kan.—City has granted the Joplin & Pittsburg Railway Company the right to construct tracks on certain streets and alleys.

Baton Rouge, La.—The Baton Rouge Electric Company has filed a mortgage to secure \$750,000 bonds, part of which will be used for improvements and extensions.

Baltimore, Md.—Both branches of the City Council have passed unanimously a resolution asking the United Railways and Electric Company to extend the tracks of the Orleans street line from Curtis Bay to the United States revenue cutter station at Arundel Cove, on Stony Creek.

Gloucester, Mass.—Major Parsons is desirous of securing semi-convertible cars on the Cape branch of the local division of the Boston & Northern Street Railway and has had several requests from citizens on the matter.

Independence, Mo.—The Kansas City, Independence & Southeastern Electric Railway has been formed for the purpose of building an electric railway from Independence to Holden, Mo.; surveys are now being made.—Bernard Zick, President.

Kirkville, Mo.—G. W. Strubhaar and Geo. E. Woodhouse, Peoria, Ill., are promoting an electric railway to be built from Connelsville, in the western part of Adair County, through Novinger and Kirkville, to Gibbs, on the Santa Fe Railroad; length, 30 miles.

Elizabeth, N. J.—Since it was announced that the Public Service Corporation might construct a trolley road between this city and Rahway, along Rahway avenue, and might extend the line to Roosevelt, the citizens of the latter place have become deeply interested in the question of trolley connections between Roosevelt and this city; general plans for the construction of the road have been discussed between Mayor Herman and other officials of Roosevelt and Mayor Victor Mravlag, City Surveyor Luster and several local Councilmen; work of constructing a road over the meadowland would cost, it is estimated, about \$500,000; of this the city of Elizabeth would have to pay but \$30,000; remainder would have to be paid by Middlesex and Union Counties.

Charlotte, N. Y.—The Rochester & Manitou Railroad will build one mile of track, largely relaying old rails; it will also construct a 2,000-foot concrete viaduct and a 600-foot wood pile trestle.

Ithaca, N. Y.—The Ithaca & Seneca Falls Interurban Railroad will begin the construction of its proposed electric railway soon; line will connect Ovid, Willard, Romulus, Fayette and Seneca Falls; length, 47 miles.—Jacob Rothschild, President.

Jamaica, L. I., N. Y.—Delegates from the various civic organizations in Queens Borough who have been interesting themselves in granting a franchise to some trolley company to operate a line of cars on Hoff-

man boulevard from the Queensboro Bridge have voted to recommend to the special committee of the Board of Estimate and Apportionment that the application for a franchise made by the South Shore Traction Company should be advanced in regular order to the Corporation Council for approval, but without prejudice to the other companies applying.

New York, N. Y.—The Second District Public Service Commission has granted to the New York, Westchester & Boston Railway Company the right to go ahead with the construction of its road; line is to be 32 miles long, to run from the Harlem River, foot of Lincoln avenue, through the Bronx to the northern line of New York City, through Mount Vernon, Pelham, New Rochelle, Larchmont, Mamaroneck, Rye and Portchester, with a terminus at Portchester; there is to be another branch at Mount Vernon, through Westchester, Scarsdale, White Plains, Greenburgh and Elmsford; another near 177th street, New York, through Clason Point and Throgs Neck to Fort Schuyler, Long Island; it will be an electric railroad upon private right-of-way, with no grade crossings.

New York, N. Y.—Consulting Engineer B. J. Arnold, of the Public Service Commission, has estimated that all the subway cars can be equipped with the new tandem doors at a cost of \$750,000, which is one-half the estimate made by the Interborough people; the Interborough Company has decided to ask for a franchise to build an air line underground road from the Grand Central Station to Lenox avenue and 110th street.

New York, N. Y.—Commissioner Bassett, of the Public Service Board, has been directed by the Board to hold a hearing on March 1 as to why the New York and Queens County Railway Company, one of the Belmont lines in Queens Borough, should not double track its two lines from Flushing to Jamaica and from College Point to Flushing.

New York, N. Y.—The United States Circuit Court has issued an order granting permission to Frederick W. Whitridge, as receiver of the Third Avenue Railroad Company and of the Union Railway Company, to construct and operate a double-track extension of the Third avenue road from its present terminus at Fort George along Pelham avenue to Third avenue, and thence to the entrance of the Zoological Gardens in Bronx Park.—Thos. F. Mulaney, Chief Engineer, 621 Broadway.

Rochester, N. Y.—Announcement has been made by General Manager E. J. Cook, of the Rochester Railway Company, that the company intends to make many improvements in the city service soon; tracks in State street to Lyell avenue and in Main street east to University avenue will be relaid; company has a franchise from the town of Greece, permitting an extension of the Dewey avenue line to Barnard's.

Syracuse, N. Y.—The Local Rapid Transit Company is considering the purchase of 25 city cars.

Winston-Salem, N. C.—The Crescent Electric Railway Company will let contracts for its proposed line from Winston-Salem to Stuart, Va., via Rural Hall, Capella Gap, Vade Mecum, Moore's Springs, Piedmont, Danbury and Sandy Ridge, N. C.; distance, 68.9 miles; surveys have been made and right-of-way secured.—E. Hillman, Aberdeen, N. C., President; P. H. MacKnight, Chief Engineer, Southern Pines.

Akron, O.—Petitions have been presented to Council asking that body to do all in its power to have the N. O. T. & L. Co. extend the Great-West Exchange line from Edgewood avenue along South Maple street to the city limits and from South street along Grant street to Cole avenue and along Grant street to Cole avenue and along Cole avenue to Main street.

Findlay, O.—The Findlay-Marion Railway & Light Company will soon purchase 12 interurban cars for its new line from Findlay to Marion, O.; construction work on line will be begun in April.—G. W. Meeker, 535 Columbus Savings & Trust Bldg., Columbus, Secretary.

Piqua, O.—At least two new traction lines in western Ohio are possibilities of the very near future; one line will extend from Troy to Pleasant Hill, Troy and Pleasant Hill capitalists to furnish the stock and the Dayton, Covington and Piqua Traction line of rolling stock; other proposed line will extend from Sidney to Bellefontaine, through Port Jefferson, Jackson Center, Lewiston and Muchinippi; road will be built by prominent business men of the various towns named; both lines will tap new territory never before opened by traction.

Youngstown, O.—Council has granted the Lake Erie & Youngstown Railway Company the right to construct tracks on Covington and Federal streets.

Astoria, Ore.—The Astoria, Seaside & Tillamook Railway Company will expend

\$1,500,000 in constructing and operating an electric railroad from Astoria to Seaside and Tillamook.

Roseburg, Ore.—Council has received an application from Milton Purdy for a 25-year franchise to build and operate an electric railway.

Hollidaysburg, Pa.—Citizens have voted to grant a right-of-way franchise to the Altoona, Hollidaysburg & Bedford Springs Railway Company.

Rochester, Pa.—J. H. Barrett, of Pittsburgh, Chief Engineer of the proposed electric railway between Rochester, Beaver County and Mars, is negotiating with people for the right-of-way for the road to Rochester township; new road will be an air line and will be 16 miles in length, running due east and west; line will connect with the Pittsburg, Harmony, Butler and New Castle road near Mars; road will cost about \$5,000,000; surveys have been completed and the engineers are now working for rights-of-way, two-thirds of which have been received.

Anderson, S. C.—The Anderson Traction Company is considering the extension of the interurban line from Belton toward Greenville and toward Greenwood.—Robert E. Ligon.

Deadwood, S. D.—The County Board has granted a new franchise to the Black Hills Traction Company to construct an electric railway from Spearfish to the Northwesternern tunnel.

Chattanooga, Tenn.—The War Department has granted S. W. Divine a franchise to construct an electric railway for freight and passenger service from the corporation line at Long street to Ft. Oglethorpe.

Temple, Tex.—Council has granted franchise to Max Ellser and associates, of New York City, to construct and operate an electric street railway in the city of Temple for a period of 30 years; work to commence within eight months from date of passage and the line to be in operation within 18 months.

Ogden, Utah.—Ogden Rapid Transit Company will issue \$1,000,000 bonds for the immediate extension of the local street car system and the installation of other contemplated improvements.

Salem, Va.—The Roanoke Railway & Electric Company will begin at once the construction of one mile of track through Salem to Lake Spring.

Winchester, Va.—The Winchester & Washington City Railway will build an electric railway to connect Winchester and Washington, D. C.; capital stock, \$175,000.—S. H. Hansbrough, President; Shirley Carter, Secretary and Treasurer; D. M. Swink, Superintendent.

Snohomish, Wash.—The Everett & Tacoma Railway has been incorporated to build an electric railway between Everett and Tacoma; capital stock, \$2,500,000.—G. M. Cochran, E. Colburn, E. L. Colburn, Edgar Wright and O. E. Crossman, all of Snohomish, Incorporators.

London, Ont., Can.—The London & Northwestern Railway has made application to the Ontario Legislature for a charter to build an electric railway from London through the townships of London, Lobo, East Williams, Adelaide, Warwick, Plympton and Sarnia, and from London through London, Lobo, East and West Williams, McGillivray, Stephen, Hay, Stanley and Goderich.

New Westminster, B. C., Can.—The British Columbia Electric Railway will soon make application for permission to cross certain roads in the municipality of Coquitlam; company plans to build an electric railway from Westminster Junction to Coquitlam Lake; distance, 7 miles.

Victoria, B. C., Can.—The Kootenay & Alberta Railway Company has been incorporated with a capital of \$3,000,000 and head office in Vancouver; proposed line is from the United States boundary to the British Columbia-Alberta boundary, where it is intersected by the North Kootenay Pass, the line following the valley of the Flathead River.

Honolulu, H. I.—The Pearl Harbor Traction Company has been formed with a capital stock of \$100,000, for the purpose of building an electric railway from the present terminal of the latter company's line at Kalakaua avenue and Saratoga street to the site of the proposed United States Government works at Pearl Harbor.—L. T. Peck, A. L. Castle and C. H. Atherton, Promoters.

BRIDGES

Phoenix, Ariz.—Maricopa County and the citizens on the south side of the Salt River are considering the construction of a concrete-steel structure of 28 arches, 2,100 feet in length, over the Salt River at Central avenue; the National Bridge Company is about to submit plans for the structure; bids will be asked in March or April.

Sacramento, Cal.—The Board of Super-

visors has authorized County Surveyor Phinney to draw plans and specifications for a steel bridge across Dry Creek, about a mile south of Galt, connecting this city with San Joaquin County; it is estimated that the bridge will cost about \$30,000 and it is to be paid for jointly by Sacramento and San Joaquin Counties; this County's portion of the money was provided in the bond issue that raised \$225,000 for bridges; the Clerk of the Board has been instructed to write to the San Joaquin County Board and authorize it to have plans and specifications drawn for a joint county bridge at Benson's Ferry; it is estimated this bridge will also cost about \$30,000, and \$15,000 for it was provided in the bond issue by this County.

Hartford, Conn.—The Commission on the Connecticut River bridge, appointed by the General Assembly of 1907, of which Senator Blakeslee is Chairman, Former Senator Andrew D. Shepard of Portland and Senator J. H. Day are members, have made their report and recommended expenditures for bridge and bridge approaches amounting to \$417,300.

Saybrook, Conn.—Plans have been completed for a bridge to be constructed over the Connecticut River between Old Lyme and Old Saybrook.—W. G. Smith, Waterbury, Engineer.

Indianapolis, Ind.—The Board of Public Works will soon ask for bids for the construction of two reinforced concrete bridges, one at the Thirteenth street crossing of canal and one at Emerson avenue crossing of Pleasant Run; estimated cost, \$4,000 and \$15,000, respectively.—Blaine H. Miller, City Engineer.

Newport, Ind.—Vermillion County Commissioners have appropriated \$4,500 for the construction of a bridge over the Little Vermillion River, and \$5,000 for repairs to the Perrysville bridge.

Topeka, Kan.—All of bids received for the construction of the Central avenue bridge across the Soldier Creek have been returned to the bidders, as none of the bids were acceptable, and the City Engineer will make out the plans, specifications and estimates himself and then advertise for bids again.

Baltimore, Md.—Charles A. Andrew, of Hartford, has announced that a bridge would be built across the Susquehanna River at Conowingo, and that arrangements were now being made so that the bridge would be completed much sooner than the State could build the highways meeting at this point on the opposite sides of the river.

Boston, Mass.—The Aldermen, on motion of Alderman O'Hare, have voted to give a public hearing March 1 on question of rebuilding the Mt. Washington avenue bridge across Fort Point Channel; cost, about \$450,000.

Wanaque, N. J.—County Engineer has completed plans for a single span steel bridge, with wood block paving, over the Wanaque River.

Canandaigua, N. Y.—Citizens have voted \$1,300 to build new culvert bridge over Sucker Brook on North Pearl street and \$1,200 for culvert on Clark street.

Elizabeth City, N. C.—Camden Ferry Company will construct an iron bridge across Pasquotank River to supplant present ferry system; estimated cost, \$10,000.—H. T. Greenleaf, Sr., Secretary and Treasurer.

Mansfield, O.—A viaduct will be erected at South Mulberry street and the north and south parts of the street united.

Youngstown, O.—A proposition may be made to Council to use the present Spring Common bridge in bridging Andrews Hollow; contractors have told members of Council that the bridge can be moved to Andrews Hollow and set up for \$9,000; the original cost of the bridge was something over \$35,000, and estimates are that the structure is worth at present at least \$20,000; this would make the cost of bridging Andrews Hollow with the Spring Common structure at least \$29,000; proposition of the City Engineer for bridging the gap with a culvert and earth fill represented an outlay of \$12,000, but has been turned down by Council because of the large cost.

Plymouth, Pa.—Town Council has decided to co-operate in every way possible in the project of securing a bridge for Shawnee; they also voted \$200 toward defraying the necessary expenses.

Columbia, S. C.—City will soon let contract for the construction of a reinforced concrete culvert in Main and Whaley streets.—A. W. Edens, City Engineer.

Knoxville, Tenn.—City will construct a concrete bridge across First Creek at Glenwood avenue.

Christoval, Tex.—Tom Green County is considering construction of a cement causeway across South Concho River.

Dallas, Tex.—The Dallas County Commissioners have set March 23 as the day for holding the special election to determine if Dallas County shall issue \$175,-

000 worth of bonds, on which to raise money with which to pay for making changes in Trinity River bridges so as to avoid obstructing navigation.

Houston, Tex.—T. C. Tarver, City Engineer, has prepared preliminary plans and specifications for construction of wharves and slips at turning basin; \$150,000 bonds have been voted.

Panhandle, Tex.—Citizens of Carson County will vote March 29 on \$50,000 bonds for erection of county jail and Court House.

Plano, Tex.—City has not yet selected plans for public auditorium 60x110 feet; estimated cost, \$7,000.

Terrell, Tex.—A new steel bridge is being erected between here and Talty over Brushy Creek; a representative of the Terrell Commercial Club is superintending the work.

Vernal, Utah.—William Neal has been appointed Chairman of a Committee to take steps to secure construction of a bridge over Green River.

Danville, Va.—Citizens will vote on \$25,000 bond issue in May for construction of a new iron bridge.—C. C. Snead, Chairman of Committee on Streets and Bridges; J. O. Magruder, City Engineer.

Montesano, Wash.—Chehalis County and Grays Harbor & Puget Sound Railroad have agreed to build a joint bridge over the Puyallup River.

Spokane, Wash.—Council has decided to construct a concrete bridge at East Olive street; estimated cost, about \$80,000.

Tacoma, Wash.—Taxpayers will vote April 6 on \$275,000 bonds for building bridges.

BIDS RECEIVED AND CONTRACTS AWARDED

San Bernardino, Cal.—The Charles D. Sheeley Co., McPhee Building, Denver, Colo., has been awarded contract by the Board of Supervisors for the construction of the First Street Bridge at Lytle Creek, at \$9,972.

Bridgeport, Conn.—The Fawcett Machine Company, 2830 Smallman street, Pittsburgh, Pa., manufacturer of cut gears, has received a contract for the operating machinery for a double-leaf Scherzer bascule bridge at Congress street.—Henry Lee, Mayor.

Pensacola, Fla.—Contract for building bridge across Bayou Chico has been awarded to the C. H. Turner Construction Company.

Michigan City, Ind.—Contract for constructing the Sixth street bridge abutments has been awarded to W. A. Stagley, of Laporte.—H. M. Miles, City Engineer.

Marshalltown, Ia.—Contracts for the construction of six reinforced-concrete bridges have been awarded by the Board of Supervisors to M. M. Stark & Co., Des Moines, Ia., at about \$11,667.

Marshalltown, Ia.—Bids received by the County Auditor on February 1 for constructing concrete culvert on Thirteenth street have been rejected; estimated cost, \$2,500. Plans on file with County Auditor, also with C. A. Baughman, City Engineer.

Baltimore, Md.—Lauer & Harper, Westport, Md., have been awarded contract for track stringers for Wilkens avenue bridge for \$1,819.—B. T. Fendall, City Engineer.

Fayetteville, N. C.—The Cumberland County Commissioners have awarded contract to Owego Bridge Company, Owego, N. Y., at \$33,233 for construction of steel bridge across Cape Fear River; 788 feet long; one roadway and one sidewalk; built upon piers.

Glendorn, Pa.—The County Commissioners, Feb. 5, awarded to Sigafoos & Poore, of Riegelsville, the contract for constructing the steel bridge over the Lehigh Canal and Lehigh Valley Railroad tracks at Glendorn, at \$14,895; there were nine other bids for the work, the highest being \$22,257 and the next lowest to the successful bidders, \$16,811.

Dayton, O.—After a delay of several weeks owing to the necessary preliminaries, the contract for the construction of the Needmore road bridge was let by the County Commissioners, Feb. 15. The award was made to the Brookville Bridge Company, represented by D. R. Fox, at its bid of \$16,300. The award provides for a complete structure, with the exception of the piers. The bridge will be of steel and wood. The structure will comprise five spans and will be over 500 feet long. Because of alleged misunderstanding as to the requirements of the plans and specifications for the new structure, the County Commissioners have been threatened with injunction proceedings.

Lynchburg, Va.—J. W. Malone, city, is low bidder at \$41,000 for construction of reinforced-concrete viaduct over Southern Railway; girder pattern; work will be paid for by railway; \$54,000 is available; contract will be awarded in March.

MISCELLANEOUS

Chico, Cal.—City Trustees are considering the calling of an election on \$100,000 bonds, \$25,000 of this to be expended on a City Hall.

Pasadena, Cal.—Mr. Booth, a representative of the Southern Pacific Company, has addressed the Board regarding Garfield Park; through the efforts of a number of local real estate agents the city stands a show of securing the four-acre tract that is known as Garfield Park at a reasonable sum.

Redondo, Cal.—Architect Edw. C. Kent, Los Angeles, is preparing plans for a bath house for the Redondo Improvement Company.

San Mateo, Cal.—The Board of Trade Committees upon the extension of the city limits and the proposed bond issue for public improvements have conferred with representatives of the El Cerrito Sanitary District; programme has been outlined which contemplates the annexation of a portion of San Mateo Park, El Cerrito and the Homestead and the issuance of a bond for \$120,000 for general public improvements; improvements would include an extension and improvement of the sewer system and the Fire Department, the erection of a new City Hall and reinforced concrete bridges and paving of certain street intersections with asphalt.

Wilmington, Del.—Mayor Horace Wilson has compiled and is promoting a bill providing for a new City Hall for Wilmington; bids will be introduced in the House by Speaker Cooper; measure provides for a Commission of six members to acquire the necessary land and erect on it a City Hall, to cost not over \$800,000, which is to be provided by a bond issue.

Washington, D. C.—A report from an American consul states that two gold dredging companies in the region in which he is located will construct jointly during the coming summer a water power plant having a capacity of 15,000 horsepower for the purpose of generating electricity to operate dredges, elevators, hoists, railways, tramways, telephones, and all other uses to which electricity is applied, the water for the use of the plant to be obtained from a neighboring river. It is also proposed to install one dredge in the early spring, and when the power plant is completed both companies will put a large number of dredges on their leases and will also install a large hydraulic system for mining their bench claims above the banks of the river. Interested parties desiring further information in regard to these supplies should address the firms to which reference is made, and whose names can be obtained from the Bureau of Manufactures.—Address No. 3074.

Washington, D. C.—Consul H. J. Dunlap of Cologne, reports that the city of Hagen, in Westphalia, Prussia, has appropriated \$71,400 for an extension of its water works and \$2,380 for experimental well borings. He also reports that the Universal Electric Company and the Siemens-Schuckert Company are urging the construction of an electric railway to connect the cities of Cologne and Dusseldorf, a distance of about 25 miles, and their efforts give promise of being attended with success. These companies offer to finance and build the road in case the municipalities do not care to furnish the money; their interest in the matter being to furnish the electric appliances. If American firms care to enter into negotiations they should address the Oberbürgermeister of both cities. For further information address No. 3080, Bureau of Manufactures.

Washington, D. C.—A report has been received from an American consular officer in western Europe stating that a local business man who is very well known in agricultural centers of the country in which he is located is desirous of buying American stump pullers doing the best possible work at the lowest cost of labor.—Address No. 3082, Bureau of Manufactures.

Joliet, Ill.—City is considering the erection of a City Hall; Contractor Adam Groth has submitted a proposition to Council.—Mayor Crown.

Topeka, Kan.—An ordinance relating to alley boxes for the purpose of throwing manure, waste paper, trash and debris of all kinds and description, reported by the Health and Sanitation Committee, has been adopted by Council.—Mayor Green.

Richmond, Ky.—Council has ordered the purchase of a dozen hooded ash or garbage cans.—C. E. Woods, Mayor.

Augusta, Me.—An act to help Old Orchard to further recover from the fire of August, 1907, was introduced in the Senate by Mr. Hamilton of York; act establishes the Old Orchard park system, and gives the town of Old Orchard the right to issue bonds for \$50,000; park system is to be controlled by a Commission of five appointed by the Governor.

Baltimore, Md.—The Harbor Board has approved tentative plans for a municipal slip on Pratt street 8 feet wide and 80 feet long.

Boston, Mass.—City is considering purchase of a lot at Woodland and Pleasant streets as a site for a playstead.

Boston, Mass.—The Board of Aldermen has referred to the Finance Committee a loan order appropriating \$35,000 for an addition to the L street bath house.

Lawrence, Mass.—Alderman Robert S. Maloney will introduce a resolution for the erection of a police station.

New Bedford, Mass.—Councilman Livesey has introduced an ordinance calling for the establishment of two public bath houses and one public comfort station.

Jackson, Miss.—John Lorenz will purchase a new or second-hand surface condenser outfit large enough for two 300-kw. turbines.

Meridian, Miss.—City will purchase 50 automatic flush tanks of assorted sizes.—W. G. Wetmore, City Engineer.

Union, Mo.—Citizens of Franklin County will vote April 20 on \$75,000 bonds for erection of county jail and Court House.

Atlantic City, N. J.—Plans to make a \$60,000 addition to the City Hall will have to be abandoned in favor of a new building, as experts have found that the construction would not carry two more stories without entire reinforcement.

Atlantic City, N. J.—Council has decided to build the \$350,000 canal, which is to serve as a drain for rain water; canal will have concrete walls and likely a concrete bottom; trees are to be planted on either side; former City Engineer John W. Hackney and City Engineer E. D. Rightmire will have charge.

Camden, N. J.—Council is considering an ordinance for the issuance of \$5,000 park bonds for the laying out, construction, embellishment and maintenance of public parks.

Brooklyn, N. Y.—City will sell, March 2, \$10,000,000 bonds; proceeds are to be used for the following purposes: \$2,000,000 for water supply development; \$7,000,000 for various municipal purposes; \$750,000 for subway construction, and \$250,000 for the Bryant Park Public Library.—Comptroller Herman Metz.

Canandaigua, N. Y.—The Taxpayers have voted 16 special appropriations, totaling \$9,025; special appropriations were as follows: \$100 for care, trimming and planting of trees in the streets and public parks; \$1,000 to purchase new hose for the Fire Department; \$1,300 to build new culvert bridge over Sucker Brook on North Pearl street; \$1,200 to build new culvert over Sucker Brook on Clark street; \$500 for erection of street signs and notices; \$1,900 for one-half estimated cost of paving Mill street with brick; appropriations included a total of \$3,200 for the village Fire Department.

Corning, N. Y.—The Committee appointed to inspect various incinerating plants has recommended the erection of a \$10,000 garbage plant with three furnace openings.—J. C. Bradley and H. H. Pratt, Committee.

Geneva, N. Y.—Henry Loomis has deeded the city 15 acres on Carter road for park purposes.

Niagara Falls, N. Y.—Mayor Douglass has recommended the establishment of public parks at the northerly and easterly parts of the city.

Pelham, N. Y.—Citizens have voted to erect a \$10,000 Town Hall.

Rochester, N. Y.—Before the season opens in the parks a shelter for the use of patrons of the Rochester Railway Company will be erected in Seneca Park and in Genesee Valley Park; in the latter park the shelter will be on the loop of the Plymouth avenue line, east of the track and between the loop and the athletic field; in Seneca Park the shelter will be west of the loop; bids on the work have not been called for, but the plans have been completed by Engineer of Buildings G. M. Cameron, of the railway company; it is intended to have the work begun on the two shelters early enough to have them ready for use when the park season opens in May.

Rochester, N. Y.—Frank G. Newell and other members of the Seneca Park Committee of the Park Board will present to the Board a plan for placing models of fine statuary in the parks.

Rome, N. Y.—At the adjourned meeting of the Board of Public Works the following estimate was prepared for the ensuing year: Street lighting, \$23,340; paving, at least \$6,000; bridges, \$6,000; parks, \$300; street repairs, \$5,500.

Elizabeth City, N. C.—City is considering a \$5,000 bond issue for the erection of market house and auditorium.

Cincinnati, O.—The Associated Organizations are opposed to the building of a new jail on the site of the present structure, which ground space is needed for an addition to the Court House; a Committee composed of Gustav Drach, Chairman; Dr.

Otto F. Geier, J. M. Blair, Carl F. Streit, William V. Ebersole and H. S. Fechheimer, which has been working on this matter, has recommended that the property in the neighborhood be secured for the new jail, suggesting that the property between North Court street and the canal and Main and Sycamore streets, or so much of it as would be necessary, be purchased for the jail.

Toledo, O.—The Council Committee on Public Improvements approved an ordinance for the appropriation for park purposes of property along the river bank beyond Walbridge Park and north of Delaware Creek.

Medford, Okla.—Grant County will soon receive bids for the erection of \$10,000 jail building; cells from old Pond Creek jail may be used; bids will be invited.—Address County Commissioners.

Oklahoma City, Okla.—Citizens will vote April 6 on \$35,000 bonds for the construction of a City Hall.

Portland, Ore.—That 125 acres of land on Mount Tabor, 20 acres in the Ladd tract in Sunnyside and 10 acres in the Smith tract in Piedmont be purchased by the City Council for park purposes was the recommendation of the City Park Board to the Council.

Ingram, Pa.—Citizens have voted \$51,000 bonds.

Lebanon, Pa.—Jas. W. Levan will shortly present to Council the garbage disposal proposition; cost to city, \$2,000 to \$3,000.

Philadelphia, Pa.—Plans for placing several public parks on the city plan and revising the lines and grades of certain streets are being considered by the Board of Surveyors; proposed parks are Pennypack, between Frankford avenue and Pine road; a plot bounded by Twenty-fourth, Tioga and Crowell streets, and an extension to Burholme, bounded by Cottman avenue, Shelmire street, the Montgomery county line and the present boundary of the park.

Philadelphia, Pa.—A. V. Kaiser & Co., Drexel Bldg., is considering purchase of a concrete mixer, $\frac{1}{2}$ to 1 yard capacity.

Philadelphia, Pa.—Council has referred to its Finance Committee a communication received from Mayor Reyburn, urging that a joint resolution be adopted giving him power to appoint a committee of five representative citizens to investigate and submit a plan for the establishment of playgrounds throughout the city; an appropriation of \$5,000 is requested.

Nashville, Tenn.—The Board of Public Works is considering an ordinance appropriating \$1,100 to purchase three sprinkling wagons.

Brady, Tex.—McCulloch County will vote on an issue of \$12,000 bonds for erection of county jail.

Gilmer, Tex.—Upshur County will issue bonds for erection of new building equipped with sewerage system.

Palestine, Tex.—The Park Committee has decided on a site for Palestine's city park; it will be 24 acres out of the Michaux tract, lying just south of the International & Great Northern Railroad tracks on the northern side of the city.

Clarendon, Va.—A committee has been appointed by the Clarendon Citizens' Association to report on plans for a Town Hall.—T. I. Donnelly, Vice President.

Kenbridge, Va.—S. J. Castle is considering purchase of a quantity of cement.

Norfolk, Va.—The members of the Board of Control will meet with the Berkley Ward Improvement Committee to consider plans for extensive improvements to the present police headquarters.

Norfolk, Va.—The Finance Committee has referred the purchase of a mud dredge to the Board of Control with instructions to ascertain cost of erecting bulkheads in South Creek; these will be necessary to the successful use of the dredge.

Norfolk, Va.—Hobbs-Ives Equipment and Machinery Company, Seaboard Bank Bldg., will purchase a second-hand street sprinkler.

Portsmouth, Va.—Mayor Reed has recommended that the city accept Dr. Southgate Leigh's offer to lease to the city for five years certain lands which he owns for a public playground.

Seattle, Wash.—An ordinance asking an additional appropriation of \$12,000 to complete the new municipal building has been introduced into Council; amount is estimated to cover various items and Superintendent of Buildings Francis W. Grant declares that portions of the building will not be habitable until the necessary work is done.

Kimball, W. Va.—T. L. Waring is seeking prices on cement and data concerning concrete manufacture and machinery for the work.

Wittenberg, Wis.—Citizens will vote at spring election on \$6,000 bonds for the erection of a village hall; architects are invited to submit sketches.—R. B. Glaubitz, Village Clerk.

Ottawa, Ont., Can.—Estimates for the fiscal year ending March 31, 1910, have been submitted to Parliament; they call

for an expenditure of \$110,489,774, to include the following: \$75,000 for St. Lawrence River improvements between Kingston and Brockville; \$1,720,300 for canals, including the following items: For the Welland chargeable to capital—Electric lighting and power plant, \$8,000; to widen canal near Welland, \$40,000; Port Colborne improvement, \$65,000; surveys, \$10,000; dock south of Welland, \$40,000; siding to Port Colborne elevator, \$21,000, and for a public building at Welland, \$18,000.

Vancouver, B. C., Can.—Messrs. Hermon & Burwell have been requested to prepare plans for the improvement of Clark's Park in the southeast section of the city.

BIDS RECEIVED AND CONTRACTS AWARDED

San Francisco, Cal.—Bids have been received by the Supervisors on \$5,400,000 municipal 5 per cent. bonds for a new fire protection system, sewer system, hospital, schools and a garbage system, composing the second allotment of the \$18,000,000 bond issue authorized by the voters some time ago; highest blanket bid received was the joint proffer made by W. W. Halsey & Co., New York; the National City Bank, New York, and Speyer & Co., New York, who offered \$6,065,820 for the whole allotment; this figure was \$40,000 greater than any other single bid or combination of bids.

Fitzgerald, Ga.—Ben Hill County has awarded contract at \$12,426 to Hanly & Lemon Construction Company, of Dalton, for erection of County jail and Sheriff's residence and nine steel cells.—J. R. McEachern, Atlanta, Architect.

Rexburg, Idaho.—Council has received bids for the erection of the new City Hall, each bidder agreeing to furnish all materials and furnish the building. The bids were as follows: W. D. Mahan, \$1,643.85; Miller & Jensen, \$2,325; William Walker, \$1,672; Paul & Johnson, \$1,651.45. The bid of W. D. Mahan was accepted.

Fort Wayne, Ind.—The County Commissioners have awarded contract to the Empire Voting Machine Company, of Jamestown, N. Y., for fifty voting machines to be used in Allen County, and declared the United States Standard voting machine, the product of the Empire company, as the type to be used. The machines are to be delivered by July 15, and are not to be paid for out of the sale of the bonds until after they are used in the city election next fall and prove satisfactory.

Gary, Ind.—The contract for the new City Hall, police and fire station was let by the Town Board, February 10, to Gallagher & Williams, of Tolleston; the building, exclusive of the furnishings, will cost \$40,000, and work will begin immediately. The contract calls for the completion of the building by August 1. Gary's new City Hall, when completed, will be the finest in the county. For the present it will be used also for Police and Fire Department headquarters, but it is planned to build later a separate building for the latter.

Council Bluffs, Ia.—The Pottawattamie County Board of Supervisors met the Harrison County Supervisors in joint session as a Ditch Board and awarded contract for excavation of the Boyer River Improvement ditch to Sternberg & Sons of Fort Wayne, Ind., on a bid of 7.08 cents a cubic yard. Seventeen bids were before the Board, that of Sternberg & Sons being the lowest; the figure is low, rates on some previous contracts having been in the neighborhood of 10 and 12 cents a cubic yard.

Sanford, Ky.—Fritz Krueger & Son, of Mt. Vernon, were awarded the contract, February 10, to build the new Lincoln County Court House; the bid was \$35,045, and the old building; there were a dozen bidders.

Schenectady, N. Y.—This city will save a considerable sum of money on the removal of ashes from the public school buildings by the contract entered into with Charles B. Hewitt, of Grant Avenue, at a meeting of the Board of Contract and Supply, February 10. The city has been carting the ashes away from the buildings, paying \$5 a day for the hire of a team of horses used for this purpose. Approximately eighty barrels of ashes are removed daily. Under the new contract this will cost 4 cents a barrel or steel can. T. F. Kelley submitted a bid at 7 cents a barrel.

Greenwood, S. C.—City has awarded contract to W. J. Snead Lumber Company, of Mt. Vernon, for erection of City Hall, to cost about \$5,000.—Cothran & Cothran, Masonic Temple, Architects.

Madisonville, Tenn.—Monroe County has awarded contract at \$14,152 to Pauly Jail Building Company, St. Louis, for erection of jail and jailer's residence; brick, 32 x 63 feet; two stories; 11 steel cages; hot-water heat; slate roof.

Portsmouth, Va.—Council Feb. 9, voted to award contract for constructing a 25-ton garbage incinerator to the Decarie Incinerator Company, of Minneapolis, Minn., for \$21,000.—Bascom Sykes, City Engineer.

TRADE NOTES

Cast-iron Pipe.—Chicago: Municipalities seem disposed to postpone orders for pipe that will be needed in the spring. Quotations: 4-inch, \$28; 6 to 12-inch, \$27; 16-inch and up, \$25. San Francisco: Outside of the order for the high-pressure system, there is little of interest. There is noted a tendency among small cities to use cast-iron pipe instead of wood or steel. Quotations: 4-inch, \$37; 6 to 10-inch, \$36; over 10-inch, \$35.50. Birmingham: The movement from Southern plants is very satisfactory. Tonnage orders withheld pending bond sales is considerable. Quotations: 4 to 6-inch, \$26; 8 to 12-inch, \$25; over 12-inch, average, \$24. New York: Quotations: 6-inch, carload lots, \$24.

Lead.—The American Smelting and Refining Company continues to quote shipment lead in 50-ton lots at 4.10c., New York. Outside interests are offering desilverized lead at 4.05c., and first-class brands at that. Soft Missouri can be had at 4c. In St. Louis lead is obtainable at 3.85c. to 3.90c., the inside price being for the soft Missouri brands.

Fire Hose.—The Eureka Fire Hose Mfg. Co., 16 Warren street, New York, is erecting a storehouse on Arlington avenue, beside the present plant. The storehouse will generally conform with approved plans of the Associated Mutual Fire Insurance Companies for brick and timber storehouse. The dimensions will be 74 feet 8 inches by 50 feet 18 inches in the clear inside, the unusual height being to permit cases to be piled to a good height and allow room for traveling crane above. The walls will be 12 inches outside, pilasters 16 inches thick and 24 inches wide every eight feet. Floor will be of concrete and roof of plank and tar and slag, similar to roof of the rubber lining building. Girders, 8 feet; centers, 8 by 14 inches, supported by 8 by 10 inch posts; all yellow pine. Windows on both sides will be 2 1-2 by 3 feet, wired glass in stationary iron frames; front and rear will be ordinary sash. Construction of building will be precisely like the other buildings and strong enough to be carried up to four stories, as conditions warrant. The storehouse will be connected with the main building by means of concrete covered walks, which will permit workmen and watchmen to pass to and fro under shelter and also admit of conveyors to carry raw material into the different departments in the main building.

Cotton Belting.—The Eureka Fire Hose Manufacturing Company, 13 Barclay street, New York, N. Y., has been at work for a number of years in perfecting a solid woven cotton belting, which has been recently placed on the market. This belting is intended for both transmission and conveying. It is manufactured on special machinery owned by the company, and the invention of the president, B. L. Stowe. The Eureka belting is woven under an immense tension in one solid body. A natural tendency of the belt in work is to form itself into a coil which in service adheres to the pulley and makes a powerful drive. The texture of the belt allows of the escape of air between the pulley and the belt. Eureka belting is made treated and untreated. Treated belt will stand moisture and climatic changes, and both styles are so solidly put together that stretching will be slight.

New Voting Machine.—To manufacture what the inventor, John M. Winslow, of Cleveland, O., believes to be an unbeatable voting machine, the Winslow Manufacturing Company, of Toledo, O., has been incorporated at Columbus, with \$60,000 capital. The incorporators are Howard Lewis, C. T. Lewis, Charles B. Wingerton, F. J. Holzemer and Frank T. Lewis. The company has closed a lease for the Pray Building, on Madison avenue, between Tenth and Eleventh streets, and as soon as the necessary machinery can be installed will commence the manufacture of the machines.

Blow-off Valve.—The Scully Steel and Iron Co., Chicago, Ill., manufactures the "Everlasting" blow-off valve, which is designed for service where a strong and dependable article is necessary. The valve needs no attention from the engineer, after being installed, being self-grinding and self-compensating at all points. It is composed of a top and bottom bonnet, a disk and a lever and post. To open the valve a wrench is placed on the square head and pushed down and reversed to close it. The two bonnets are set together upon an approved high-pressure gasket with machine bolts, giving quick access to the inside when necessary to renew the disk or reface the seat. The valve face, being raised, can readily be refaced by a few strokes of draw filing and the face of the disk can be similarly treated. The operating post is set tight upon a ground joint and held there by a stiff bronze spring, thus doing away with a stuffing-box; it constantly grinds itself to an absolutely true seat at each operation. The inlet orifice is tapered just above the seat to increase the velocity of the blast at this point and insure its delivery into the discharge pipe without punishment to the seat, as would be the case were this precaution not taken. The clearance spaces within the valve have been made ample to avoid the possibility of clogging.

PATENT CLAIMS

911,696. **Street-Sweeping Machine.** John Banser, Cedar Lake, Ind. Serial No. 444,801.

In a street sweeper, the combination of a wagon frame with a box at one end thereof, a pair of rotary brushes extending across at the other end of the frame, means to drive said brushes in opposite directions, whereby the dirt will be lifted or thrown up between them, an inclined shield fixed between the sides of the frame above the brushes and extending at an inclination upwardly from the brushes toward the box, and an endless belt conveyor extending upwardly from the brushes to the box, and located under the shield.

911,702. **Street-Sweeping Machine.** Vincent D. Carroll, San Francisco, Cal. Serial No. 314,704.

In a street sweeping machine, the combination of a wheeled support or carriage, a shaft mounted in bearings carried by said carriage and adapted to be revolved as the latter is moved, a brush comprising a plurality of sections surrounding the shaft and each freely movable radially of the shaft by gravity to a position eccentric to the shaft, and means for transmitting rotary movement from the shaft to the brush.

911,941. **Device for Dislodging Matter from Valves in Water-Supply Systems.** Jesse Conway, Baltimore, Md. Serial No. 426,981.

A device for dislodging obstructions in water pipes comprising the combination with an underground main supply pipe and a branch valve communicating with said main pipe, of a cylinder having its open end attached to and in communication with the branch side of said valve; a test valve attached to the cylinder; an imperforate piston movable in said cylinder which latter is adapted to contain a column of water between the piston and the said branch valve; a stem attached to the

piston and projecting from the cylinder and provided at its outer end with a head, whereby a blow may be struck with a mallet or hammer on the head of the projecting stem to produce a sudden shock which will dislodge anything clogging the main pipe side of the said branch valve.

912,125. **Concrete Mixer.** Walter E. Hassam, Worcester, Mass., assignor to Hassam Paving Company, Worcester, Mass., a Corporation of Massachusetts. Serial No. 366,890.

The combination with a vehicle body having a raised portion in front and a depressed portion in the rear integrally connected together, a platform on the raised portion and a platform on the rear portion, of an engine or motor supported on the upper platform having a driving shaft, a mixing tank supported on the lower platform and having a shaft, a bracket on the top of one end of the mixing tank supporting the end of the engine shaft, and means for transmitting power from one shaft to the other.

912,126. **Pavement.** Walter E. Hassam, Worcester, Mass., assignor to Hassam Paving Company, Worcester, Mass., a Corporation of Massachusetts. Serial No. 390,244.

The method of making a top or wearing surface for pavements which consists in mixing hydroline, coal tar pitch and sand in substantially the proportions specified, heating the mixture, mixing graded stone in the same while hot, spreading the coated stone on a suitable foundation, and rolling the same to give a smooth surface.

INCORPORATIONS

American Sand & Gravel Company, New York, N. Y.; sand and gravel; capital, \$50,000. Incorporators: Jacob Wheatfield and Lee Well, 17 State street; Louis Sachs, 277 Broadway, all of New York.

Chicago Contracting & Engineering Company, Chicago, Ill., \$30,000; installing and operating power and heating plants and operating machine and repair shops. Incorporators: John M. Blake, Arthur B. Wells and H. H. Talcott.

Concrete Construction Company, Nashville, Tenn.; capital, \$25,000. Incorporators: John J. Roach, James W. Handly, George S. Parkes and others.

Frank B. Gilbreth, New York, N. Y., general contracting, roads and bridges; capital, \$25,000. Incorporators: John C. Wait and William L. Bowman, 38 Park Row, New York; William H. Hickin, 1800 Bath avenue, Brooklyn.

Ideal Fire Escape Company, Rochester, N. Y.; manufacture fire escapes and other mechanical devices; capital, \$10,000. Incorporators: William E. Turner and Henry Mehserle, Rochester; James E. Martin, Lincoln Park, N. Y.

International Fire Escape Company, Wilmington, Del.; capital, \$250,000. Incorporators: Jonathan W. Aydon, Morris A. Grubb and Henry Baird, Wilmington.

Interstate Water Works Company, Wilmington, Del.; capital, \$900,000. Incorporators: W. H. Stonsler, Edmund S. Hellings and William M. Pyle, Wilmington.

Northern Idaho & Montana Power Company, Wilmington, Del.; capital, \$1,500,000. Incorporators: Isaac Milkeurth, James S. Cummings, J. J. O'Brien, R. A. Wortman, Chicago, and Harry W. Davis, Wilmington, Del.

Paintsville Water & Light Company, Paintsville, Ky.; capital, \$300,000. Incorporators: Edwin D. Lanell, L. D. Brooks and Martin Garnet, Philadelphia, Pa.

Patent Monarch Alarm Company, China Grove, N. C.; capital, \$100,000. Incorporators: W. Boyd Gobel, F. A. Bost and F. W. Bost.

Polo Electric Light & Power Company, Polo, Ill.; capital, \$15,000. Incorporators: Byron J. Snow, Jas. D. Beckler and Wm. Fraser.

Queens Engineering Company, New York, N. Y.; general construction; capital, \$6,000. Incorporators: Thorburn Reid, 91 Wall street; Frederick C. Mearns, 252 West Ninety-third street, all of New York; Robert Brown, Norfolk, Va.

South Texas Construction Company, Galveston, Tex.; capital, \$10,000. Incorporators: N. H. Ricker, Charles C. Ricker and L. Birmingham.

Stone Harbor Construction Company, Stone Harbor, N. J.; to construct pavements, curbings, copings, fences, pillars and cellars; capital, \$20,000. Incorporators: Samuel Brunner, 632 Church street, Royersford, Pa.; Alfred N. Rush, P. O. Box 7, Phoenixville, Pa.; Simeon F. Bronson, P. O. Box 53, Kimberton, Pa.

Worth Construction & Contracting Company, New York; general contractors, build roads and bridges; capital, \$2,000. Incorporators: Bartholomew Sharboro, West New Brighton, N. Y.; Angelo L. Casazza, 2 James street; Joseph Borro, 60 Wall street, both of New York.

BOOK REVIEWS

The Ventilation of Public Sewers. By John S. Brodie. The St. Bride's Press, London. 170 pages, with numerous illustrations. \$1.50 net.

The matter of ventilating sewers seems to be treated by the British engineers as a very complicated one, and the devices used therefor are many and elaborate. This work deals with a dozen or so methods of ventilation by natural air currents, by artificially produced air currents and by deodorization. The second class includes systems which would not be considered for a moment by American engineers, not only because of their expense but still more because of the number of parts and opportunities for the collection of foul matters and the liability of one or more of the parts getting out of order. One of these systems, for instance, includes a fan and motor, a special interceptor trap for every house-drain and street-inlet, together with "special regulated air inlets having automatic aluminum reflux valves, etc.," besides other air inlets and outlets of more or less elaborate construction. The cost of this system is estimated at more than \$6,000 per mile. The author in one chapter considers the necessity of ventilating sewers and treats with more or less derision and contempt anyone who claims that all sewers do not need ventilating. Possibly all English sewers do, one reason being that they are generally on the combined system. The majority of engineers of the highest reputation in this country, however, consider the best method of ventilation to be by ventilated manhole tops and free, untrapped house connections. This work would, therefore, be read in this country only as a matter of curiosity concerning English methods. About three-fourths of the text is taken up with papers dealing with sewer ventilation and allied subjects which have been published during the last thirty years or more—which in itself would look rather suggestive of lack of progressiveness among the English sanitary engineers.

Sewage Disposal Works; Their Design, Construction and Maintenance. By Hugh P. Raikes. D. Van Nostrand Company, New York. 414 pages, 72 illustrations. Price, \$4 net.

The author of this work is a consulting civil engineer in Birmingham, England, and practical details given in the book are naturally those employed by English engineers or manufactured by English companies. This, however, detracts very little from the usefulness of the work for American engineers, most of the details being structural rather than manufactured articles; in fact, a number of them are taken from American plants. But while the structural details in general differ slightly from those used in this country, considerable difference in some features of general design results from the fact that the majority of systems in England are combined, and most of the disposal plants are arranged on the basis of having to handle in some way large quantities of storm water at intervals. The work has as its sub-title "A Practical Guide to Modern Methods of Sewage Purification," and the author states that "the chemical and biological aspects of sewage disposal have been very fully and completely dealt with by a number of eminent scientific authorities, but no book has recently been published from which equally full and reliable information can be obtained re-

garding the more practical side of the question, considered from the point of view of the engineer." The author endeavors to make good this deficiency in the present treatise. The result is by far the most complete and satisfactory work treating with structures and actual details of operation of sewage disposal plants which has yet appeared. The style of the author is somewhat cumbersome owing to the length of his sentences, which average about three to a page, each sentence in most cases constituting a paragraph. This is not a serious defect, however, as, in spite of this, the explanations are made quite plain. The matter treated of is excellently selected and arranged, and the illustrations are well calculated to supplement the text. The matters treated of, as described in the chapter headings, include "Alternative Methods of Treatment," "Preliminary Considerations Affecting the Design and Construction," "Diffusion in Tidal Waters," "Irrigation and Land Filtration," "Removal of Matters in Suspension by Screening and Treatment in Tanks," "Chemical Precipitants and the Disposal of Sewage Sludge," "Filtering Media for Bacteria Beds," "Contact Beds and Their Operation," "Percolating Filters," "Alternative Methods of Construction and Working," "Distribution Over Percolating Filters," "The Separation and the Disposal of Storm Water," "Purification of Trade Wastes," "Maintenance and Management of Sewage Disposal Works." The index is quite full and has a certain novelty of arrangement which is calculated to facilitate ready reference. This book is one which should be in the library of every engineer who may be called upon to either design or operate sewage disposal works.

Report of the Minister of Roads and Public Works to the President of the Republic of the United States of Brazil for 1908. Three volumes. Rio de Janeiro, Brazil, Government Printing Office.

The report covers the whole field of the department, including matters of commerce, agriculture and immigration. General and statistical information regarding some topics of municipal interest are also given. Among these are telegraphs, lighting, hydro-electric development, water supplies and tramways.

ENGINEERING EXAMINATIONS

NOTICE OF EXAMINATION OF APPLICANTS FOR THE POSITION OF SUPERVISOR OF THE WATER WORKS, MINNEAPOLIS, MINN.

Minneapolis, Minn., Feb. 15, 1909. Board of Examiners, Minneapolis, Minn., give notice that an examination in hydraulic and mechanical engineering will be held in the office of the City Engineer on March 15, 1909, at 10 A. M., to examine candidates for the position of Supervisor of the Water Works in the Water Department.

Civil Engineer, Philippine Service.—The United States Civil Service Commission announces an examination on March 10-11 to secure eligibles to fill vacancies in the position of civil engineer in the Philippine Service. The entrance salary is usually \$1,400 per annum. There are, however, similar positions in that service paying higher salaries, and it is desired to secure from this examination eligibles who are qualified to fill the higher-salaried positions in the event that vacancies therein occur. It is especially desired to secure eligibles who have had experience in river or harbor work to fill two positions, one at \$1,800 and the other at \$2,000 per annum.

PROPOSALS

BRICK AND MACADAM PAVING

Corning, N. Y.

The Board of Public Works of the City of Corning, N. Y., will receive proposals until 7:30 P. M., Thursday, March 4, 1909, for building about one-quarter mile (3,600 square yards) brick pavement with cement curbs and gutters, and also for one-quarter mile (4,300 square yards) macadam pavement with cement curbs and gutters. Proposals may be made separately for the two kinds of pavement, and must be accompanied by a certified check for \$250 payable to the City of Corning, N. Y.

Plans and specifications can be seen at the office of R. H. Canfield, Superintendent of Public Works, Corning, N. Y.

The Board reserves the right to reject any or all bids and to increase or diminish the amount of work to be done.

Address proposals to W. C. Sleight, Clerk of the Board of Public Works, Corning, N. Y. (6-8)

STREET IMPROVEMENTS

Waukesha, Wis.

The Board of Public Works of Waukesha, Wis., will receive bids, at their office, on Friday, February 26th, 1909, at 2 o'clock P. M., for street improvement work, consisting approximately of 10,000 cubic yards of excavation; 18,000 linear feet of combination curb and gutter and 26,000 square yards of macadam with tar surfacing. Estimated cost \$40,000. Plans and specifications on file at office of the Board.

JOHN P. DEY, Chairman.

ELECTRIC LIGHTING

Sumter, S. C.

Bids will be received until 12 o'clock noon, Tuesday, March 9th, 1909, for furnishing the City of Sumter with fifty enclosed incandescent arc lights, 6.6 amperes, 2,000 nominal candle power. All within a radius of one mile from center. All night service. Also prices on additional lights as needed, above fifty and not exceeding eighty. Contract to run ten years from Nov. 1st, 1909.

Address

C. M. HURST,
Clerk and Treasurer.

FILTER PLANT

White Plains, N. Y.

Sealed proposals will be received until 12 o'clock noon Monday, March 8, 1909, by the Board of Water Commissioners of Village of White Plains, N. Y., at their office, Eastern State Journal Building, 133 Railroad avenue, White Plains, N. Y., to furnish and install a mechanical pressure filtration plant under specifications approved by the Board of Water Commissioners at a meeting held at their office February 17, 1909.

All bidders are requested to visit the grounds and ascertain for themselves the work to be done.

Specifications will be forwarded upon application for the same to the office of the Commissioners.

The Board of Water Commissioners reserves the right to reject any or all bids.

JOHN N. HEENEY,
Superintendent

PUMPS AND BOILER

Muskogee, Okla.

Bids will be received until 5 o'clock P. M., March 15, 1909, at the office of the City Clerk, Muskogee, Okla., on a four million gallon high service pump, a five million gallon low service pump and a two hundred and fifty horsepower tubular boiler.

Certified check for two thousand dollars must accompany each proposal.

L. B. KINSEY,
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